AMATEUR RADIO

AUGUST 1962

Vol. 30, No. 8

2/-

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Decibel: minus 20 db. plus 22 db.
Output range 0-10, 50, 100, 500, and 1,000.
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VK2WI: Sundays, 1100 hours EST, simultaneously on 3573 Kc., 7146 Kc., 50.16 Mc. and 145.13 Mc.; Intrastate call-backs taken on 7050 Kc. VHF 1930 hours EST on 50.16 Mc. and 145.13 Mc.; call-backs taken on 2 metres.

VK3WI: Sundays, 1030 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate hook-ups taken on 7135 Kc.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 Kc. and 14.342 Mc. Intrastate hook-ups taken on 7105 Kc.

VK5WI: Sundays, 0900 SAT, on 7146 Kc. Relays on 3.7, 14.2, 50.02, 144 and 288 Mc. Intrastate hook-ups taken on 7125 Kc.

VK6WI: Sundays at 0930 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3672 Kc. Intrastate hook-ups taken on 7115 Kc.

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OUR COVER

The Victorian Division of the W.I.A. has adapted the technique of hidden transmitter hunting to the location of meteorological balloons. This has proved very reliable and has since been adopted by the Melbourne University. Our photograph shows the retrieved balloon and radar reflector together with the Amateur gear used for the task.

FEDERAL COMMENT

★

The month of August once more heralds in the popular Remembrance Day Contest. This year, the fifteenth on which it has been held, is ample tribute in itself to the popularity of the event. It is our way of paying annual homage to our comrades who paid the supreme sacrifice during the 1939-45 World War. This latter concept should be our guide in our attitude towards the Contest.

Any contest which extends over many years, as has this R.D. event, tends to lose some of the ideals which inspired its inauguration. Whilst we have endeavoured to remind all entrants, by way of an opening speech by an eminent Australian—this year the Governor of Western Australia, His Excellency Lt. Gen. Sir Charles Gardiner, K.C.M.G., K.C.V.O., K.B.E., C.B.—of the objects of the Contest, the R.D. has of recent years developed into the usual scramble for contacts and in some cases, selfish operating practices and infringements of Regulations.

While our efforts have always been directed towards encouraging active participation by as many Australian Amateurs as possible, it was never envisaged that some operators would be selfish enough to try to destroy the very precepts on which it was based. Had our lost comrades been of this same selfish turn of mind, we may not now be enjoying the freedom and pursuit of our hobby. Their effort was a team effort—let ours be the same.

When you operate later this month in the R.D.—as we hope you all will—think of your mates and that they may wish to make a few R.D. contacts also. Adopt good operating practices, abide by the Regulations and enjoy yourselves; then this Contest will indeed become a Remembrance Day Contest and not a battle for some more wall paper for the shack.

FEDERAL EXECUTIVE, W.I.A.

CONTENTS

MATTERS—MOBILE

PART ONE

K. WOODWARD,* VK2ZAU

AT present being a flat-dweller (no external aerials allowed), I have been forced to investigate the possibility of mobile operation and to find out what a fascinating facit of our hobby it is that I was missing. During this investigation, I unearthed several interesting circuits and originated others which I trust might help some equally adventurous souls to get their feet wet on mobile operation.

As they say in the classics, "first catch the rabbit (car)". So let us examine what is to be expected of your humble automobile. If you are in the throes of purchasing your transport keep an eye on the fact that a 12 volt system is much preferable to the 6 volt system. Adding mobile radio equipment to a car means that the electrical system could be called on to deliver 15 amperes upwards during transmission and possibly reaching 8-10 amperes whilst receiving.

Point one, therefore, is to ensure a heavy duty battery in good condition with properly adjusted current and voltage regulators to achieve maximum charging without overloading equipment fitted to the car. In passing, we might emphasise this subject of overloading by pointing out that whilst in motion, should the generator voltage exceed 14 volts, it could cause the early demise of say a 12 volt vibrator.

Of course if you are purchasing a new car and have the choice, the alternator system is superior to the generator system both in charging rate and noise production.

NOISE SUPPRESSION

Mentioning noise, brings us to the next subject—"Noise Suppression," both your own and externally generated. If you are lucky enough to have a diesel engine, half of your problems are over. However, if you own a "tin-lizzy" like myself, the following steps may be taken, always remembering that complete elimination of radio noise cannot be expected unless the ignition key is in the off position.

The generator is the instigator of a particularly annoying whine, usually varying with motor speed. To prevent radiation of this hash, a 0.1 μF. coaxial type condenser should be mounted on the generator frame and connected in series with the armature lead ("A" lead). If unable to obtain a coaxial condenser, use an ordinary paper capacitor to ground from the "A" terminal. However, you will find that the effectiveness of an ordinary capacitor diminishes rapidly above 2 megacycles.

It is understood that the generator brushes and commutator should be in good condition before expecting good noise suppression. Improvement in generator suppression can be achieved by inserting a trap consisting of a 50 pF. condenser in parallel with a coil of heavy gauge wire inserted in series with the armature lead and tuned to the operating frequency. Another possibility is to use a scrap length of coaxial cable to replace the "A" lead from generator to regulator, grounding the braid at both ends to ensure maximum shielding. **Note.**—Do not, under any circumstances, mistake your Field (F) wire for your Armature (A) wire.

• Whilst this article will be of particular interest to Mobile Amateurs, many ideas will be found suitable for fixed station operators. Try them on your travelling "tired iron".

A decided improvement in mobile noise reduction will result from the use of capacitors (coaxial if possible) in the leads to the voltage regulator as shown in **Fig. 1.**

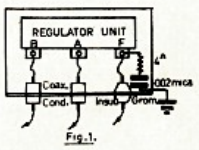

Fig. 1.

Ignition noise is often increased by bad connections on the leads. This can be improved by cleaning all connections and soldering the leads to the crimped connections usually used.

Fig. 2 shows normal steps taken to suppress ignition noise. Some modern cars are already fitted with resistive ignition wiring, saving the purchase of suppressors. Also available are suppressed and shielded spark plugs, should your pocket book extend to this expense. Ignition noise from cars tends to decrease above 120 Mc. and generally peaks to maximum around 30 to 60 Mc.

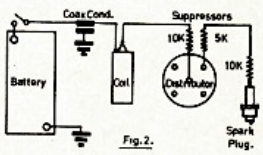

Fig. 2.

After suppressing ignition leads there remain two steps which may improve the noise position. They are: (1) If your ignition coil is provided with two insulated primary terminals, try reversing the connections on these and then listen to your receiver. You will find one way usually gives better noise suppression than the other. (2) Try bonding various parts of the car together, e.g. motor to body, bonnet to body, exhaust pipe to body. Whilst the motor and receiver are running you could try temporary bonds with a heavy file, etc. **Caution.**—Do not work on your mobile with the engine running in an enclosed area. You may not live to enjoy any mobile contacts.

In conclusion of this section, your own noise and external noise may be reduced by the insertion of an effective noise limiter in your receiver. The circuit of such a limiter is shown in Fig. 3, which gives details of two circuits, one using fixed limiting and the other variable limiting. An on/off switch is shown, but from use of this limiter circuit I myself have discarded the switching as an unnecessary refinement, the noise limiter being permanently in circuit. If long audio leads are necessary, these should be shielded.

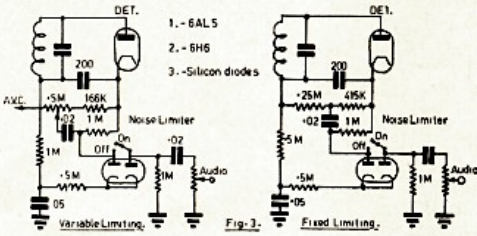

Fig. 3.

The full-wave series noise limiter as shown lists in order the preference for the type of diodes to use. **Never** use germanium diodes.

Not generally known is the fact that to make any noise limiter effective, the audio amplifier following should be reasonably free of distortion and be frequency restricted. It is the writer's opinion that a receiver's audio section should be so limited as good communications practice notwithstanding the improvement in the noise limiting action. The ultimate in audio reproduction would be to achieve the rapid fall of audio response below 500 c.p.s., a 6 db. per octave boost from 500-2,500 c.p.s., and attenuation of all frequencies above 3,000 c.p.s. This is a fairly tall order, but a suggested circuit is given in Fig. 4 which gives a reasonably close approximation. All values shown should be adhered to and the condenser X1 should be chosen to give the final restriction on the reproduction of high audio frequencies. Condenser X1 may be about 2,200 pF.

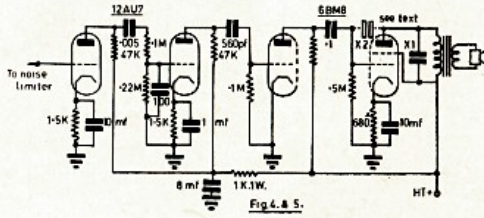

Fig. 4. & 5.

Substitution for X2 can be made in the circuit as shown dotted in Fig. 4. The approximate value of X2 would now become 15 pF. and should be a high quality mica or ceramic with **no** leakage. With this circuit, as the audio frequency goes higher, the negative feedback increases, therefore you obtain a falling gain characteristics for increasing frequency.

MOBILE RECEIVERS

To receive the Ham bands mobile it is necessary to either extend the range of the normal car radio with a converter or to completely build from scratch a receiver especially designed for the

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job. I personally prefer the second method for achieving better efficiency and better band coverage.

On the subject of bands, let us consider what frequency should a mobile station operate. The 80 mx band, whilst very popular in New Zealand and America, has been totally neglected in Australia. One of the main reasons, although good results can be obtained, is that the antenna efficiency for mobiles on this band is very, very low. The 40 mx band is quite popular in Australia, good mobile contacts being made when band conditions permit with reasonably low power. Here again antenna design is critical and efficiency very low compared to the normal half-wave dipole (approximately 9%). The 20, 15 and 10 mx bands have not been utilised in Australia for fairly obvious reasons, although the 10 mx band could be extremely good during the height of the sunspot cycle or for local contacts if there were sufficient local stations active on this band.

The 6 mx band is not very populated by mobiles but is fast becoming so with efficient whip aerials easily secured; Interstate and DX working possible, subject to conditions, and very reliable short distance working (up to 50 miles) obtainable.

Finally, the 2 mx band, a popular frequency for mobile working, is reliable for short distance working, line of sight distance working and, as proved lately, an occasional possibility of DX or Interstate contacts.

In summation, it would seem that we should consider the use of 7 Mc., 50 Mc. and 144 Mc. The writer's opinion is that the mobile station should, especially if building from scratch, make provision for receiving and transmitting on all three of these bands.

It is suggested that the basic receiver have a frequency coverage of 4 Mc., including 7 Mc., say 6-10 Mc., and have a slow motion dial not exceeding 10-1 unless it has an over-riding fast motion incorporated.

Previous mention has been made of a suitable detector, noise limiter and audio for a mobile receiver, therefore we will restrict ourselves to the consideration of the i.f. amplifier and front-end to be used. Consideration has not been given to the use of transistors or hybrid valves as it is assumed that the transmitter power supply will be also utilised for reception.

Forty metres automatically presupposes for our purposes a high selectivity receiver. Our selectivity must be obtained in the i.f. section at a reasonable cost, therefore it is suggested that we use two stages of i.f. amplification with the first stage utilising back-to-back i.f. transformers, the frequency being 455 kc. By using one r.f. stage, the image rejection will be quite reasonable and enhanced on 7 Mc. by the high Q of the mobile aerial. A suggested circuit is given in Fig. 6. This is not claimed to be the ultimate in receivers, but is capable of giving a good account of itself. Note that your favourite b.f.o. circuit should be added for s.s.b. and c.w. reception, or alternatively you might use the circuit of Fig. 7.

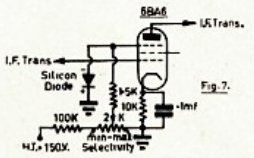


Fig. 7.

The values given in Fig. 7 should be closely followed, however if the gain is too low with the potentiometer at minimum selectivity, the value of the cathode resistor could be reduced. As you reduce the control to zero (earth end), the stage comes closer to regeneration, finally in the last stages of the control it becomes a b.f.o. pitch control and may be used for the reception of c.w. or s.s.b. quite successfully.

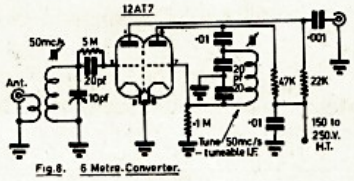


Fig. 8. 6 Metre Converter.

Having achieved reception on 40 metres, let us consider extending the range to 50 and 144 Mc. Several very good converters have been featured in "A.R." and other magazines, so some very simple converters are featured instead to give the d.c. boys an incentive to explore these foreign fields. Fig. 8 is a simple converter for 6 metres capable of reasonable results. If you are more ambitious, the r.f. stage illustrated in Fig. 9 may be added. A good shield across the 6AK5 socket is recommended to tame the r.f. stage. These simple circuits could also be used to get the newcomer started on 144 Mc., but I would strongly recommend that crystal-locked converters be used on both bands. In N.S.W. considerable success has been achieved by the users of the crystal locked converters sponsored by the N.S.W. V.h.f. and T.v. Group and featured in one of the national radio magazines.

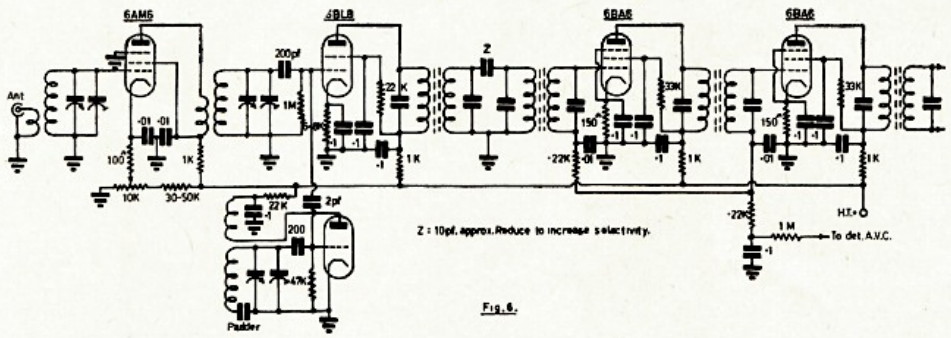


Fig. 6.

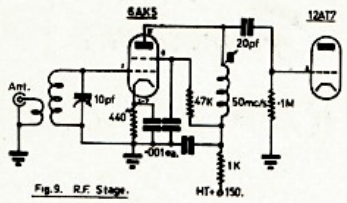


Fig. 9. R.F. Stage.

MOBILE TRANSMITTERS

The transmitter is the problem child amongst the mobile equipment. The transmitter is usually designed around the power supply which itself is dependent on the primary power source. The power available from most supplies is limited, so let us consider what radiated power means in terms of reception at the other Ham's shack.

In theory a signal increase of 3 db. gives about half an S unit increase in reception. A 3 db. change requires the doubling of actual radiated power. For example, a 300 volt 100 mA. power supply could produce a radiated (modulated) carrier of approximately 8 watts. To increase your power to produce half an S unit difference, the minimum signal change that is noticeable at the receiver end, it would be necessary to radiate 16 watts. This means that the primary current drain for a 12 volt system would increase from approximately 5 amperes to approximately 10 amperes. A further 3 db. increase, 32 watts output, would cause a primary drain increase to approximately 20 amperes.

It can be seen that a small increase in signal received is bought very dearly at the mobile transmitter. Therefore we are limited to radiate as much power as our power supply will stand on 7 and 50 Mc., but on 144 Mc. we are saved by the ability to increase our radiated power by the use of a high gain aerial.

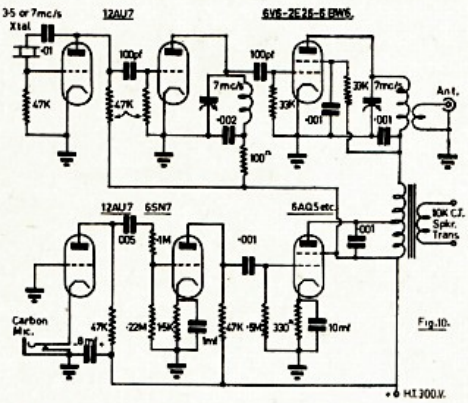


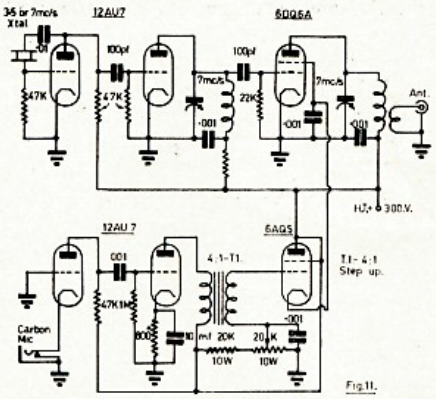
Fig. 10.

7 Mc. Transmitter

Two simple transmitters are illustrated in Figs. 10 and 11, giving two approaches to the use of a simple 300 volt 100 mA. power supply. In Fig. 10 the oscillator-driver stage can use 3.5 or 7 Mc. crystals and has an approximate drain of 15 mA. The final plate current is approximately 35 mA. and the preamplifier-modulator 50 mA. With an input of 10.5 watts, an approximate output of 7 watts is obtained. modulated approximately 80%.

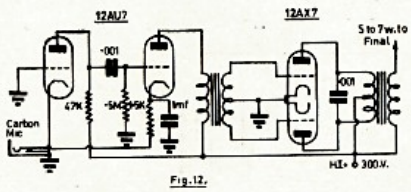
In Fig. 11 gated screen modulation is used, the approximate current drains being: osc.-driver 15 mA., final 70 mA.,

modulator 15 mA. An input of 21 watts will, with efficiency modulation, give an approximate output of 8 watts nearly fully modulated. To set up the gated screen modulator, start with the screen voltage shown. If this is too low, a controlled carrier effect will be noticed. The antenna coupling should be tightened and grid drive reduced if necessary until the antenna current drops about 15% from maximum value. Once set up to give correct operation, the antenna coupling, etc., can be fixed and left. Ensure that you have upwards modulation or the received signal will not give very good audio recovery.



Modulation

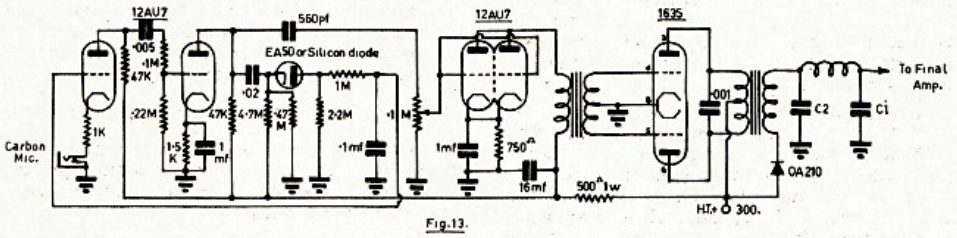
If space permits and you have the necessary transformers, which are now commercially available, the class B modulator of Fig. 12 could be substituted in Fig. 10 and by changing R1 and R2 to 22K the input could be increased to 12 watts. This would still be within the limits of the power supply but be sure you have a large filter capacitor across the output of your power supply. A 12AX7 valve in class B is capable of delivering 5-7 watts of audio, sufficient to possibly even overmodulate the transmitter in Fig. 10, which leads to a discussion of making the best use of your audio in transmission.



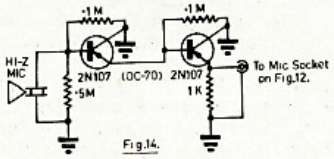
As stated earlier in our discussion of receiver audio amplifiers, to achieve a good communication audio the following must be accomplished. (1) Attenuation below 500 c.p.s.; (2) 6 db. per octave boost from 500 c.p.s. to 2,500 c.p.s.; (3) Attenuation of frequencies above 2,500 c.p.s. This means for normal voice input to the modulator, maximum modulation will be achieved on all frequencies between 500 and 2,500 c.p.s. at once as the average voice drops about 6 db. per octave above 500 c.p.s.

As we use a microphone, especially mobile, we tend to vary the intensity of the voice or the position of the microphone. To combat this we can resort to three tricks—compression, low level clipping, and high level clipping. For simplicity and effectiveness, the author prefers compression and high level clipping, or a combination of both.

Fig. 13 illustrates a modulator circuit incorporating speech shaping, compression and high level clipping. With an applied voltage of 300 and approximate full signal drain of 50 mA., 12 watts of audio is available. This will modulate fully a 25-watt carrier, or making use of the high level clipper-filter will modulate a much smaller carrier very effectively without sideband splatter. Note that values of components should be strictly adhered to for best results.



The high level filter network values are dependent on the impedance of the final tube being modulated, but L1 could be approximately 0.25 henries, and C1 and C2 approximately 0.01 μF. (high voltage rating). C1 and C2 could be varied slightly for best results, but remember that C1 will include any plate by-pass condenser in the modulated final.



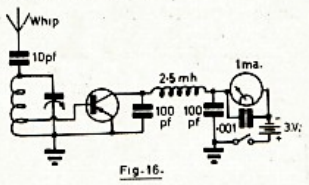
By now you will have noticed that all modulator circuits have featured a carbon microphone. This is because there are only two really reliable microphones for mobile operation, the carbon and the dynamic. I strongly disfavour the use of disposals carbon microphones as these are unreliable and give bad quality audio. It pays to invest in a new carbon microphone and ensure good quality transmission. For those people who would like to use a high impedance microphone with these circuits, Fig. 14 gives the circuit of a high impedance microphone and transistor matching amplifier, which derives its power from the 12AU7 cathode circuit. Comparable audio power to the carbon microphone is obtained with this circuit.

Should the available power supply be capable of supplying more than 100 mA., I would suggest the use of the r.f. section of Fig. 11 with standard screen grid circuit (approx. 22K) and the modulator of Fig. 13.

6 and 2 Metre Transmitter

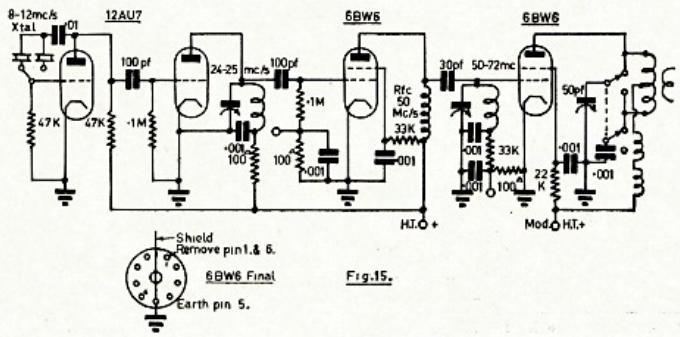
Whilst separate transmitters could be built on 6 and 2 metres, I would suggest, especially for the v.h.f. beginner, the combined transmitter of Fig. 15. This circuit is very efficient on 50 Mc., being capable of approximately 6 watts output with 250 volts high tension, but do not expect more than two or three watts output on 2 metres. Incidentally, the writer has had in operation a 2 metre mobile running $\frac{3}{4}$ watt output and has made several contacts up to 100 miles at good signal strength using a mobile beam which will be described later in this article.

The final tank circuit in Fig. 15 is parallel tuned for 50 Mc. and series tuned for 144 Mc. In mobile operation for easy loading there is a tendency to use pi networks in the final stage. If properly designed good results can be obtained from a pi network with the added benefit of a possible reduction in harmonics radiated. The Q of the tank circuit should be at least 12 and values of components for various frequencies can be obtained from the A.R.R.L. Handbook.



When tuning your final it will be found that maximum radiation does not necessarily coincide with the plate current dip, so to achieve maximum results some type of radiation meter is recommended. A simple radiation meter which could be fitted with plug-in coils for each band is illustrated in Fig. 16. Whilst any r.f. transistor will work it is suggested that you use an OC170 or OC171 to achieve maximum sensitvity at v.h.f. frequencies.

(Continued on Page 9)



THE IMPORTANCE OF ADJACENT CHANNEL SELECTIVITY (I.F. FILTERS)

E. C. HULME, VK2EN*

● The writer covers the various means of achieving adjacent channel selectivity by showing representative circuits. A more detailed explanation is given in discussing mechanical filters.

ON today's crowded Amateur Service frequency bands it is essential that a communications receiver be able to discriminate between adjacent signals. Various means of achieving the required selectivity have been proposed and this article will review some of the systems used.

Today the trend seems to be towards an r.f. input stage designed to provide sufficient gain to over-ride the noise generated by the first detector, with a high selectivity channel following the first detector. It is desirable that such a selective channel be placed as close as possible to the aerial in order to minimise the effects of cross modulation.

Means of defining adjacent channel selectivity in a receiver are varied but the system of quoting the response at the —6 db. and —60 db. points on the selectivity curve has much to commend it. The ratio of the selectivity at these points is termed the shape factor (s.f.) and in the ideal case has a ratio of one: i.e. a vertical sided response curve.

The first attempts to obtain a good s.f. followed the discovery by Dr. J. Robinson in England of the usefulness of quartz resonators. James Lamb, of the A.R.R.L., then developed the single crystal i.f. filter, a circuit of which is given in Fig. 1.

Regretably this circuit possessed the poor shape factor shown in Fig. 2.

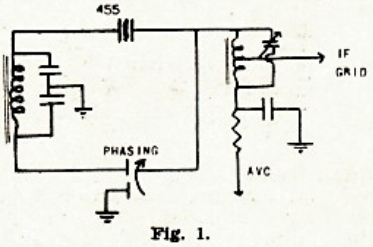


Fig. 1.

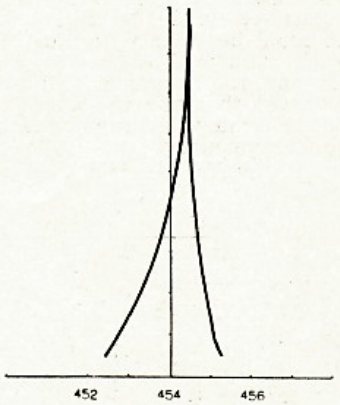


Fig. 2.

Over the next decade or so attempts were made to achieve a better shape factor by using a string of i.f.t.'s connected back to back. This arrangement is shown in Fig. 3 and although it provided a better skirt selectivity, was still far from ideal.

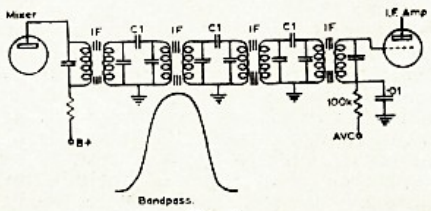


Fig. 3.

With the termination of World War II. a wide variety of surplus equipment became available. Among the various items were large quantities of crystals. Fortunately for Amateurs, many of these crystals had a fundamental resonance in the region of 455 kc., the most common i.f. frequency used in receivers.

The advent of these low priced crystals enabled Amateurs to experiment with multi crystal i.f. filters in an attempt to improve shape factor.

These attempts led, in general, to a series of modifications of the basic Lamb or Robinson filters in which more than one and up to six crystals were used.

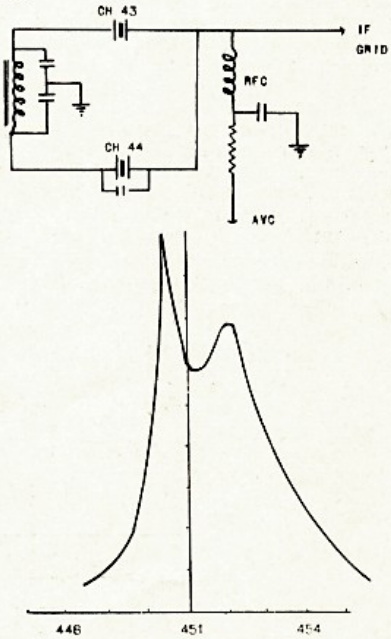


Fig. 4.

Typical of the circuits developed were those shown in Figs. 4, 5, 6 and 7.

From these circuits and their associated shape factors it will be seen that only one (Fig. 7) shows any real promise and six crystals are required.

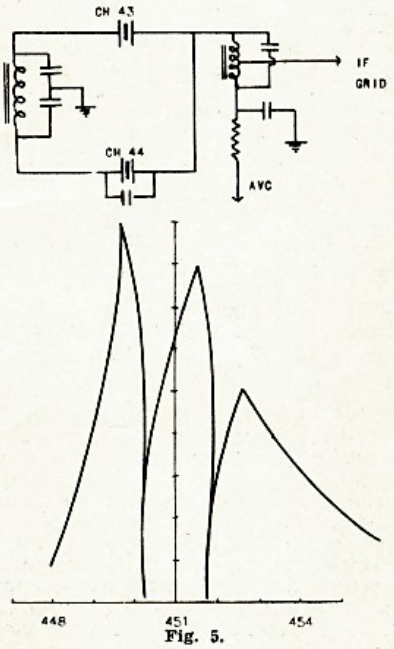


Fig. 5.

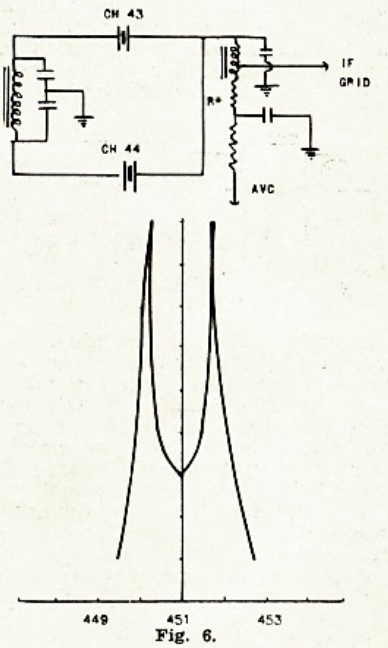


Fig. 6.

During this period of development the use of two crystals, suitably ground and a toroidal coil were proposed. This system exhibited an excellent shape factor and the use of high frequency

* 34 Gnarbo Ave., Carrs Park, N.S.W.

crystals (and thus a high frequency i.f.) offered exceptional freedom from image responses. Details are given in Fig. 8.

However, in most of the foregoing circuits, more or less difficulty was experienced in adjusting them correctly and they did not therefore meet with the wide acceptance from the Amateur fraternity that perhaps they deserved.

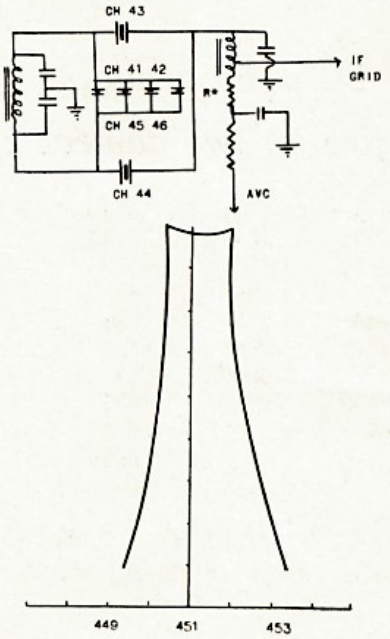


Fig. 7.

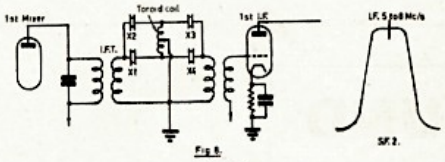


Fig. 8.

While these various attempts to derive ever smaller shape factors were being made, receiver manufacturers were offering double or triple conversion units. This was done on the grounds that multiple conversion gave the advantage of excellent image rejection by the high frequency i.f. channel while selectivity was provided by a low frequency (50-100 kc.) i.f. channel. Fig. 9 gives a schematic of such a system.

It will be seen that the shape factor was still far removed from that required. Strong stations only a few kilocycles away were still able to override a weak DX station tuned in at the selectivity curve.

Progress made until the late 1950s can be summarised thus. Using a number of crystals and/or complex circuitry

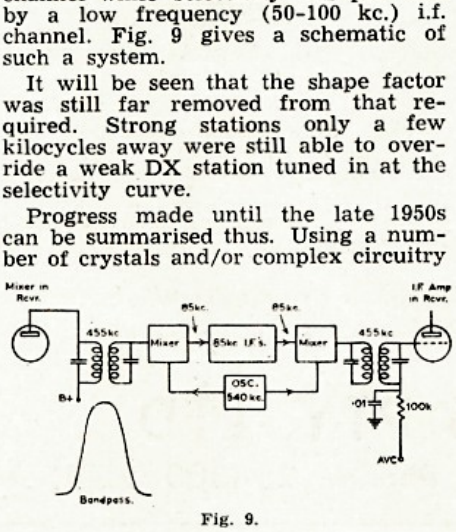


Fig. 9.

it was possible to obtain good shape factors but the critical adjustment required in all cases militated against their wide use in Amateur equipment.

At this stage a solution to the problem of a good shape factor combined with ease of adjustment was provided by the introduction of mechanical filters, a simplified diagram of such a filter being given in Fig. 10.

It can be seen that the mechanical filter comprises four main components: (1) An input transducer (left hand coil of Fig. 10) which converts the electrical input into mechanical oscillations in (2) the rod, so compressing (3) selected metal discs. In turn the oscillation of the discs induces an e.m.f. in (4) the output coil (the right hand coil in Fig. 10). Generally a magnetostriction type transducer is used.

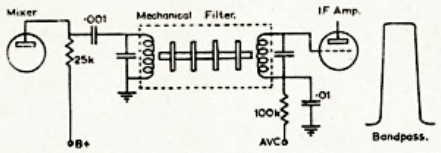


Fig. 10.

A very simple (and thus somewhat inaccurate) analogy to explain the mode of action of a mechanical filter would be a loudspeaker facing a moving coil microphone. Electrical energy fed to the voice coil of the loudspeaker (equivalent to the left hand coil of Fig. 10) causes a piston action of the cone attached to the voice coil. This piston action is transferred to the air column in front of the cone and this air column can be likened to the discs in the mechanical filter. The oscillating air column in turn acts on the cone of the m.c. microphone and in so doing causes its associated coil to move. This movement of the microphone coil is changed (or transduced) into an a.c. e.m.f. In this simplified example we have an electrical - mechanical - mechanical electrical energy transformation, while in the mechanical filter proper we only have an electrical-mechanical-electrical transfer.

Mechanical filters have very good shape factors. Six disc types are quoted at 2.2, a seven disc type at 1.85, and a nine disc filter at approximately 1.5. Thus it can be seen from Fig. 11 that if a receiver using a mechanical filter is tuned to station X at the —6 db. point, then a station only 500 cycles lower in frequency will be attenuated by (60 — 6) or 54 db.

Mechanical filters are stable in that they are relatively immune to vibration, shock, moisture (they are normally hermetically sealed), atmospheric pressure and most other external conditions. They do, however, possess a negative temperature coefficient (-3×10^{-5} per °C.), but their gain is constant to ±2 db. over the temperature range 0 to +70°C.

They are compact and lightweight, taking up a fraction of the space needed by other filters of comparable performance. Due to their construction, no adjustment of the filter is necessary (or desirable) and once wired in require a minimum of external circuit alignment to function well.

The successful application of a mechanical filter is, however, subject to a few simple precautions which, if followed, will ensure that maximum performance is realised.

Firstly a signal in excess of 10v. r.ms.. should not be applied across the input (i.e. between plate and B+). This point is not normally of importance in receivers where the signal level at the mixer plate is more likely to be in the millivolt range, but attention must be paid to input levels where such filters are used in s.s.b. generators.

Secondly, the filter should be placed directly after the converter (first detector) where the power level is low. Such placement of any selective network is obligatory if freedom from cross modulation is desired and this general rule of the nearer the aerial the better applies to mechanical filters. In some cases (transistor or transceiver duty for example) it can happen that thte signal level is too low for optimum operation of a mechanical filter and a stage of i.f. amplification may be needed to rectify the situation.

Thirdly, it should be noted that the mechanical filter has terminal impedances which are low compared with the normal i.f. transformer and the average insertion loss may run at about 20 db. This loss is, however, relatively unimportant, as it can be made up by amplification after the filter. The selectivity of the transformers used in the subsequent amplifier stages will also

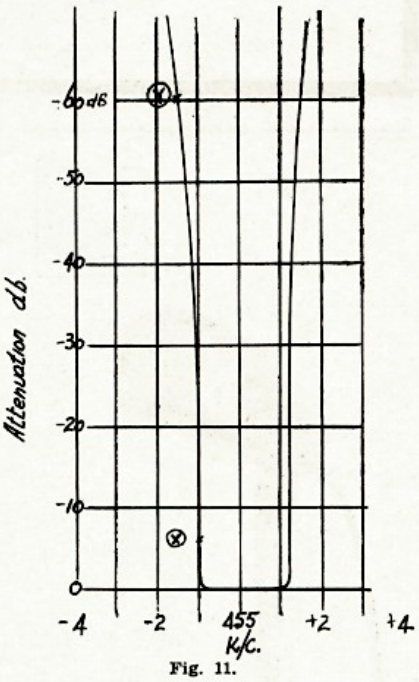


Fig. 11.

help to eliminate any spurious resonances generated by the mechanical filter itself, but broad band i.f. transformers should be used so that no degradation of the selectivity curve of the filter takes place. Low Q i.f.'s are the most suitable.

As a fourth point, it should be noted that short, direct plate and grid leads to mechanical filters are most important. The physical layout should be such that stray coupling round the filter is minimised as stray capacity coupling across the filter will noticeably degrade its selectivity characteristics. A small

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3590 „	4045 „	4295 „	4580 „	4852.5 „	5180 „	5385 „	5660 „	5892.5 „	6142.5 „
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3680 „	4095 „	4340 „	4635 „	4930 „	5235 „	5435 „	5730 „	5950 „	6235 „
3720 „	4135 „	4395 „	4695 „	4950 „	5245 „	5437.5 „	5740 „	5955 „	6275 „
3760 „	4165 „	4397.5 „	4710 „	4980 „	5285 „	5485 „	5780 „	5995 „	6315 „
3800 „	4175 „	4445 „	4735 „	4995 „	5295 „	5500 „	5782.5 „	6000 „	6362.5 „
3885 „	4215 „	4490 „	4780 „	5030 „	5327.5 „	5545 „	5815 „	6042.5 „	6375 „
3955 „	4240 „	4495 „	4785 „	5035 „	5335 „	5583.5 „	5820 „		6405 „
3990 „	4255 „	4535 „		5127.5 „		5587.5 „			6450 „

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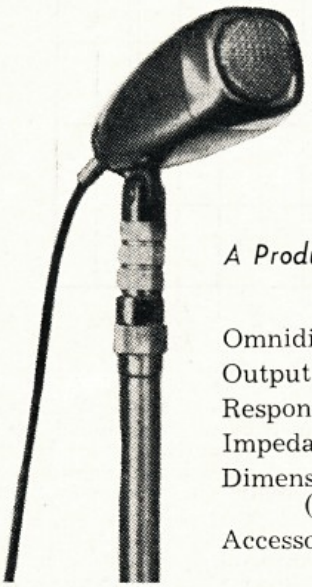

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metal shield across the filter terminals normally affords the necessary isolation. Mechanical filters are relatively sensitive to feed and terminating impedances so all external capacitances should be kept small (except where otherwise stated). Normally a total of 15 pF., including inter electrode capacitances, is the maximum.

Finally, it should be noted that a negative voltage must not be impressed on the filter, neither should the positive voltage applied to the input exceed 250 volts.

Having discussed the characteristics of mechanical filters it may be opportune to show how they are included in a receiver and Fig. 12 gives a typical circuit using a two-stage i.f. channel. Normally this provides more than enough amplification and the right hand part of the circuit could be omitted if desired.

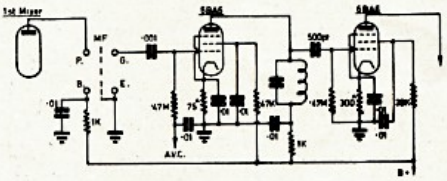

Fig. 12.

It will be obvious to sideband devotees that a mechanical filter is an ideal means of generating a good sideband signal. If, in addition, the same filter can be used for both receiving and transmitting functions, the cost would be reduced and performance improved. The circuit in Fig. 13 shows how this can be achieved and Fig. 14 gives its pass band. It can be seen that if the carrier frequency (or b.f.o.) is injected at the —20 db. point marked on the curve, then a carrier suppression of 20 db. is achieved **before** the balanced modulator starts its work.

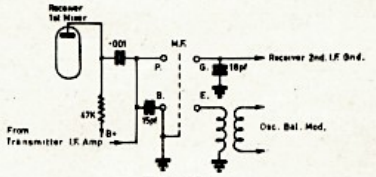

Fig. 13.

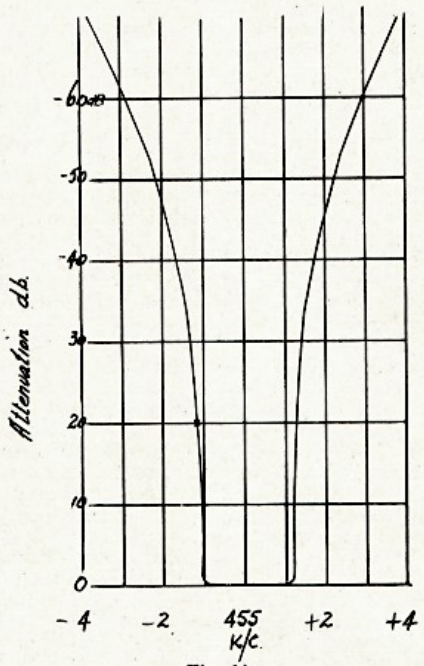

Fig. 14.

It is hoped that this article will have been of assistance to readers in reaching a greater understanding of mechanical filters, their ease of adjustment and their general lack of criticality when compared with their crystal counterparts. ●

JAMBOREE-ON-THE-AIR

The Fifth Annual Scout Jamboree-on-the-Air will commence on 20th October, 1962, at 1000 hours E.A.S.T. for a duration of 24 hours.

The Boy Scouts' Association, Victorian Branch, is asking Amateurs to participate in this world-wide event by co-operating with their local Scout Groups. This is not a competition; there are no prizes. Any Amateur, with a past or present association with the Scout movement, or who has Scouts in his shack, simply goes on the air any time during the week-end October 20-21 and calls "CQ Jamboree". He will find a great number of local, interstate and overseas stations who are similarly interested.

The Jamboree-on-the-Air has two main objects:

(1) **To make the 4th Scout Law Live.** This Law says: A Scout is a friend to all, a brother to every other Scout, no matter to what country, class, or creed, the other may belong.

The average Scout has few opportunities of meeting Scouts from other countries. Although he cannot shake hands with them during this Jamboree, he can talk to them. Even if conditions are bad, he will be able to talk to Scouts from other parts of his own country and exchange ideas.

(2) **To open new fields of interest.** An introduction to Amateur Radio may help a boy discover a latent interest which may lead him to an eventual career in electronics, radio, television, computers. space-travel, etc. It may also encourage him to work on Scout Proficiency Badges related to radio, electricity and signalling.

Any information regarding the event can be obtained from your local Scout Group or from the Victorian Boy Scouts' Association Co-ordinator, Commissioner J. S. B. Y. Woodburn, VK3AGD, Dunkeld, Vic.

REMEMBRANCE DAY CONTEST

SAT.-SUN., AUGUST 18-19

1800 hours to 1759 hours E.A.S.T.
See page 12, July "A.R.," for rules.

MATTERS—MOBILE

(Continued from Page 5)

It will be noted that very little coil data is given in the circuits; this omission being deliberate. Every Amateur has a junk box with odd size coil formers and should preferably own or be able to borrow a g.d.o. Unless you are fortunate with extension leads, etc., a battery operated g.d.o. is extremely useful, as you will find when tackling your aerial installation. Fig. 17 is a circuit of a transistorised g.d.o. which is capable of operation up to 150 Mc.

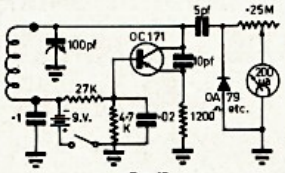

Fig. 17.

I hasten to add before finishing this section that if serious work is being considered on 2 metres, not just local contacts, that a separate transmitter for this band be built. Once again back copies of "A.R." are a good source of circuits.

Single and double sideband suppressed carrier mobile equipment has not been covered in this article, but will be experimented with by the author in the next twelve months and may be the basis of a later article.

(To be continued next issue)

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK6RU	2	266	VK6KW	4	206
VK5AB	45	266	VK3ATN	26	204
VK3AHO	51	253	VK4HR	12	192
VK6MK	43	252	VK4RW	23	184
VK4FJ	21	230	VK3BZ	3	176
VK3WL	14	211	VK4WF	16	173

Amendment:
VK3TG .. 48 121

C.W.

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3KB	10	300	VK3BZ	6	222
VK3CX	26	288	VK4HR	8	218
VK4FJ	29	269	VK3XU	48	213
VK3NC	19	255	VK7LZ	17	212
VK3FH	15	226	VK3YL	39	211
VK6RU	18	226	VK5RX	23	210

Amendments:

VK3ARX	66	181	VK3JF	70	145
VK2APK	76	166	VK3AX	68	131

OPEN

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK2ACX	6	300	VK2AGH	83	252
VK6RU	8	279	VK3HG	3	246
VK4FJ	32	275	VK4HR	7	233
VK3NC	77	260	VK3BZ	4	231
VK6MK	74	256	VK3JA	43	229
VK3AHO	76	256	VK3WL	45	225

Amendment:
VK2APK 82 172

New Member:
VK3QP .. 86 119

ERECTION OF AMATEUR TOWERS

Recently Mr. A. Chandler (VK3LC) was refused permission by the Malvern City Council to erect an Amateur Radio tower upon his property. The matter was referred to the Victorian Council of the W.I.A. who agreed that in view of the importance of the matter, they would apply for a hearing before the Building Referees. (The latter body sits to hear an appeal against Council rulings given under the Uniform Building Regulations.)

The W.I.A., Victorian Council, decided that they would bear the legal costs involved, as, if the Malvern Council ruling was allowed to stand, then other Amateurs throughout Melbourne, and other cities, could be similarly penalised.

On 21st June, 1962. the hearing was heard before the Building Referees, and the following are the relevant details quoted from this hearing:

The W.I.A. solicitor stated "This appeal is of some significance to a number of Amateurs . . . it is submitted that this particular aerial tower is perfectly sound structurally . . . Mr. Chandler has been given no indication officially as to why this application has been rejected. He has been told . . . the reason was because of the appearance of the tower."

The Malvern City Council representative then stated: "The Council felt that the height of the tower would affect the appearance of the locality."

Discussion then followed this point and it was agreed that the proposed tower was structurally sound and that other towers had been erected within the similar area.

The W.I.A. solicitor then proceeded to demonstrate that under the Uniform Building Regulations, the aesthetic appearance was not well founded as a ground for rejection, therefore the Building Referees were requested to rule upon the structural capability of the tower, and if they agreed that it was sound, then they should allow the appeal. The attitude adopted by the R.S.G.B. was quoted and the Building Referees stated, "... don't think we can go any further. In due course you will be advised of the decision."

On 25th June, 1962, the W.I.A. was advised that the appeal had been upheld, thus the way was clear for the tower to be erected.

This appeal has established a precedent in so far that the W.I.A. have acted as a body and have assisted an Amateur to overcome a problem. Normally such a task would be beyond the normal individual. As the appeal was upheld, it could act as a precedent for other cases, thus if any Amateur is faced with a similar problem, then he or his advisers, can benefit by the case that has been described. It must be remembered, however, that in this particular instance, the tower was structurally sound, any rejection upon the grounds of insufficient strength in the tower would be a different story.

Thus once again the W.I.A. has rendered the Amateur a service. If any Victorian Amateur is faced with a similar problem regarding the refusal of permission to erect an aerial tower, he is requested to contact the Victorian Division Council of the W.I.A.

AWARDS AND CERTIFICATES

By John Velamo, OH2YV

The original meaning of the awards is to give recognition for certain achievement in Amateur Radio operating. So each award has its own rules, indicating the requirements according to which the award will be available to interested Amateurs.

The awards are a splendid aid in order to seek suitable destinations to the Amateur Radio activity, especially on the Amateur bands. Soon everyone would get tired of unsystematic and unplanned operating, for there really is no lack of contacts on the bands. If we only operate without any purpose, we soon will find that the mass contacts will not give us full satisfaction. So the awards come to help us. They help us to find certain "steps" along which we can improve our operating skill gradually, and get further and further in Amateur Radio. Reaching these destinations, one after one, will give us quite **different** satisfaction.

The general trend has been to keep the standards of the awards high and esteemed. However, during the last few years there has appeared quite a new kind of trend in Amateur Radio award fields. Certificates have been founded evidently in order to make profit from them. We cannot come to any other conclusion when looking at the numerous certificates issued mainly by individual Amateurs, the requirements of which often are easy, but which regularly are "sold" for plain money. In one case this trend has exploded to a degree which could be called "certificate industry," in a way that one and the same individual (in the U.S.A.) issues nearly 100 (one hundred) different certificates, each being granted for one dollar (U.S.) and the requirements of each certificate being of a pretty easy class. **Certificates like these, according to the European understanding of Amateur Radio, are against the original Ham spirit!** Such certificates should be avoided, in order to stop further spreading of the business trend in pure Amateur Radio!

The International Amateur Radio Union (I.A.R.U.) probably will give a recommendation about the awards which are in accordance to Amateur Radio. A separation—so regrettable as it even is—is a must just because of the "business" and false trend in this field. As well it will be very welcome because not all individual Amateurs are able—or they do not want—to judge which award is in accordance to Amateur Radio and which not! A recommendation like that possibly coming from the I.A.R.U. will be a tremendously valued help to the private Amateur now being ashamed among all the masses of certificates!

Today there are over a thousand certificates available in the world, and it is natural that among them there are both good and poor awards.

Because the popularity of award hunting has increased tremendously during approximately the last five to ten years, it is evident that in order to stop the false trend in this field, strong information and guidance will be necessary, as well in national as in international "frames". Nationally each individual who has ability of healthy consideration has the possibility to lead the trend in certificate operating into right rails. Internationally this task belongs to the national, official Amateur Radio organisations which **must** be able to control their individual members who are inclined to the trend against real Ham spirit! If these national organisations are powerless, there is very great danger that the Ham spirit will lose its pure meaning. **The Ham spirit in its pure, original meaning must not be spoiled!**

The Award Hunters' Club, the oldest and original organisation of the certificate and award hunters in the world, officially registered and affiliated with the I.A.R.U. organisation, seriously recommends a very strict consideration to every Amateur when choosing certificates as a destination for the activity on Amateur bands. As well, it is recommended that not too many certificates be issued in the same country (in fact, this is the decision of a I.A.R.U. Region I. Conference!), and that the certificate issuers be preferably the official organisations rather than private individuals. Have all Leagues checked this?

Awards issued by official national Amateur Radio organisations are recommended, among them also the old and esteemed world-wide awards issued by certain Amateur Radio publications in various parts of the world. Certificates which indicate a trend to "business" by means of Amateur Radio operating should be avoided. These certificates generally are known for their high price and often easy requirements.

Remember, approximately five I.R.C.'s will cover all packing and mailing costs of a certificate, even that may give some minor profit. The certificates themselves **must not** cost anything to the applicants, it being only reasonable that the applicant pays the postage.

VK-ZL OCEANIA DX CONTEST, 1962

N.Z.A.R.T. and W.I.A., the National Amateur Associations in New Zealand and Australia, invite world wide participation in this year's VK-ZL Oceania DX Contest.

Objects: For the world to contact VK/ZL/Oceania stations and vice versa.

When? Phone: 2 hours from 1000 GMT, Saturday, 6th October, to 1000 GMT, Sunday, 7th October. **C.w.**: 24 hours from 1000 GMT, Saturday, 13th October. to 1000 GMT, Sunday, 14th October.

RULES

1. There shall be three main sections to the Contest:—
   (a) Transmitting phone.
   (b) Transmitting c.w.
   (c) Receiving—"phone and c.w."

2. The Contest is open to all licensed Amateur transmitting stations in any part of the world. No prior entry need be made. Mobile Marine or other non land-based stations are not permitted to enter the Contest.

3. All Amateur frequency bands may be used but no cross-band operation is permitted.

4. Phone will be used during the first week-end and c.w. during the second week-end. Stations entering both sections must submit separate logs.

5. Only one contact per band is permitted with any one station for scoring purposes.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a competitor, and must submit a separate log under his own call sign. (Not applicable to overseas stations.)

7. Entrants must operate within the terms of their licences.

8. **Cyphers**: Before points can be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST ((c.w.) report plus three figures which may begin with any number between 001 and 100 for the first contact, and which will increase in value by one for each successive contact; e.g. if the number chosen for the first contact is 053, then the second must be 054, followed by 055, 056, etc. If any contestant reaches 999, he will start again from 001.

9. **Scoring**: (a) **For Oceania Stations other than VK/ZL**: 2 points for each contact on a specific band with VK/ZL stations; 1 point for each contact on a specific band with the rest of the world.

(b) **For Rest of the World other than VK/ZL**: 2 points for each contact on a specific band with VK/ZL stations; 1 point for each contact on a specific band with Oceania stations other than VK/ZL.

(c) **For VK/ZL Stations**: 5 points for each contact on a specific band and in addition, for each new country worked on that band, **bonus points** on the following scale will be added:

1st	contact—	50	points
2nd	„	40	„
3rd	„	30	„
4th	„	20	„
5th	„	10	„

For this purpose the A.R.R.L. countries list will be used with the exception that each **call area** of W/K, JA, SM, UA will count as "countries" for scoring purposes as indicated above.

10. **Logs**. (i.) **Overseas Stations**:

(a) **Logs** to show in this order: date, time in GMT, call sign of station contacted, band, serial number sent, serial number received, points. **Underline** each new VK/ZL call area contacted and use a different log for each band.

(b) **Summary** to show: call sign, name and address (**block letters**), details of equipment, **total score** by showing sum of VK/ZL call areas worked on all bands and total points for all bands. Sign a declaration that all rules and regulations were observed.

(ii.) **VK/ZL Stations**: (a) **Logs** must show in this order: date, time in GMT, call sign of station contacted, band, serial number sent, serial number received, contact points, bonus points. Use a **separate log** for **each band.**

(b) **Summary** to show: name and address in **block letters**, score for **each band** by adding contact and bonus points for that band and as well, **total score** by adding band scores together, details of equipment used and power, declaration that all rules and regulations have been observed.

11. The right is reserved to disqualify any entrant who, during the Contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

12. The ruling of N.Z.A.R.T. Executive Council will be final.

13. **Awards. VK/ZL Stations:** The N.Z.A.R.T. will award certificates to the top scorer on each band and the top scorer in each VK/ZL district and silver mounted plaques to the top ZL scorers in both the c.w. and the phone sections.

Overseas Stations: Certificates will be awarded to each country (call area in W/K, JA, SM, UA) on the following basis:

1. Top scorer using "all bands".
2. Top scorers on individual bands.
3. To those with minimum contact requirements to be determined by conditions and activity prevailing.

14. Entries from **VK/ZL stations** should be posted direct to N.Z.A.R.T. Contest Manager, 86 Lytton Road, Gisborne, N.Z., to arrive not later than 31st December, 1962.

Entries from **Overseas Stations** should be posted to N.Z.A.R.T., Box 489, Wellington, N.Z., to arrive not later than 19th January, 1963.

RECEIVING SECTION

1. The rules are the same as for the transmitting section, but it is open to all members of any S.w.l. Society in the world. No transmitting station is permitted to enter this section.

2. The Contest times and logging of stations on each band per week-end are as for the transmitting section.

3. To count for points, logs will take the same form as for the transmitting section as follows: date, time (GMT), call of the station heard, call of the station he is working. RS(T) of the station heard, serial number **sent** by the station heard, band, points claimed. Scoring is on the same basis as for the transmitting section and the summary sheet should be similarly set out.

4. Overseas stations may log **only** VK/ZL stations, but VK receiving stations may log overseas stations and ZL stations; while ZL receiving stations may log overseas stations and VK stations.

5. Certificates will be awarded to the top scorer in each VK/ZL call area and in each overseas scoring area.

DON'T FORGET THE

REMEMBRANCE DAY CONTEST

SAT.-SUN., AUGUST 18-19

1800 hours to 1759 hours E.A.S.T.

See page 12, July "A.R.," for rules.

W.I.A. 50 Mc. W.A.S.

Call	Cer. No.	Add. Cntr.	Call	Cer. No.	Add. Cntr.
VK4HD ..	27	8	VK2VW ..	9	3
VK4ZAZ	26	7	VK5GG ..	19	3
VK4ZBE	29	6	VK5BQ ..	23	3
VK2WJ ..	13	4	VK7LZ ..	24	3
VK3ZFM	22	4	VK3ZHF	25	3
VK3IM ..	30	4	VK9AU ..	32	3
VK4PU ..	35	4	VK3ZGZ	28	2
VK4HR ..	4	3	VK5ZZ/T	31	2
VK3PG ..	5	3	VK7ZAO	33	2
VK2ABC	8	3	VK7ZAQ	34	1
			New Members:		
VK5AX ..	36	–	VK5ZBR	37	1

THE NEW "A.R."

LOG BOOK

IS NOW AVAILABLE

Larger, spiral-bound pages with more writing space.

Price 5'6 each

Postage free.

Obtainable from your Divisional Secretary, or W.I.A., P.O. Box 36, East Melbourne, C.2, Victoria.

YOUTH RADIO CLUBS

KEN MATTEI, VK1KM

YOUTH Radio Clubs are increasing in number. These clubs do a fine social service for adolescents and will give a great boost to Amateur Radio. Some information about their purpose and results should quieten the occasional old-timer (usually not a father!) who rumbles "More QRM" and perhaps bring more VK Amateurs to find a little time to help in this satisfying work.

Briefly, the Youth Radio Club is formed wherever young people can be gathered (or are already in a prepared group) in order to help them make a start in simple radio construction, learn a little theory, and possibly progress to A.O.C.P. It is usually easier to form a club as an off-shoot of some existing organisation—High Schools (and private Church Schools, particularly those with boarders), Police Boys' Clubs, Boy Scouts, Church Clubs, A.T.C., and the like, provide large groups of adolescents at an impressionable age and easily attracted to Radio as a hobby.

The result is firstly a fine piece of social work for anybody who cares about young people and future juvenile delinquency as it might be if this country follows in the foot-steps of others. No one should expect to be a hero saving large numbers from an awful fate, but certainly you might be diverting a few from the anti-social path. Secondly, the young people are getting a fine start for a possible career in some branch of Electronics. Even if this does not turn out to be their eventual career, studying Radio certainly improves their school marks in Maths. and Science. Thirdly, there is a definite boost to Amateur Radio.

The QRM problem is no worse because Youth Clubs, if they operate a station, are nearly always on the air at uncrowded times such as lunch hours. We should be able to see from the events of the last 14 years that the official mind has little respect for our rights as private citizens or our value to the country; much greater numbers and better public relations are the only way to halt the cutting of our frequencies which is the great cause of QRM. **Greatly increased numbers in a few years are only likely from this adolescent age group.**

Whether or not they can find the time or inclination to help, the Amateur fraternity should appreciate the value of Youth Clubs and create a situation in which the officers of their organisations can take some steps to help those interested enough to do the work. Our officers themselves are only voluntary workers and cannot be expected to burden themselves with forming the clubs and doing the practical demonstrations, etc., but they can nevertheless give plenty of backing from the Divisions and Branches for those who do the work, even if only to provide gear from Disposals accumulations of semi-rubbish. How fertile is the soil of our executives for the seeds of this idea? The VK2 Division have made a start by approving, in principle, of the printing of official certificates for a series of five graded awards on lines worked out by Rex Black, VK2YA.

● Every Amateur should read unless there are others coming this article with the object of determining what he, as an individual, can contribute to the scheme, which has Federal Executive support. It is the young people to whom the future of Amateur Radio must be left, and forward, then our future cannot be accurately foretold.

There are probably plenty of bright ideas and some are already in operation, but how about these for a start?

(a) Approaches to the Director of Secondary Education, possibly resulting in official encouragement of Radio Clubs in High Schools and also Summer Schools to coach young Science teachers in running a Radio Club (anything to help over the crisis in Maths. and Science teaching will interest the Dept. of Education).

(b) Similar approaches to Boy Scouts' Commissioners (at least their certificate for radio could be revised).

(c) Offers of circuits, simple demonstration material (from Disposals?), wall charts, mounted instructions for the library, etc., to Science Masters of High Schools, even if there cannot be a roster of local Amateurs to look after a High School Club which is always successful if it is handled in a practical way.

(d) Newspaper appeals for old radios and other gear to be pulled to pieces, the parts to be handed out to interested youngters.

(e) A Branch or Division project to make smart and efficient portable gear to be operated at suitable functions such as Boy Scout Fetes, Y.M.C.A. affairs, Hobbies Exhibitions, Education Week, High School Science Exhibitions, Agricultural Shows, Orphanages, etc.

(f) The boarders' section of a private school is always receptive to Radio and the Headmaster is always grateful for help there.

(g) Enlightened executives of big radio firms would sponsor a club—Rotary, Apex, Lions, etc., might help.

(h) Formation of a class or hobbies group in an Evening College will get the instructor a few pounds a night for his trouble.

There are obvious advantages in a unified VK approach. Does Federal Executive agree about the need for such an approach, and can it find the time (voluntary!) to make it an all-VK effort?

Here in Canberra, so far, youth groups have about 60 young people interested generally in radio construction. There are four groups formed: Lyneham High, Canberra High, Police Boys', and Canberra Radio Society. In groups like this, there is generally a hard core of about one-third who will do a lot of radio and probably the majority of them will become Amateurs. About another one-third will play around with simple work but there is no way of telling how far they will go, nevertheless they have some interest in a challenging hobby and that will do a lot of good. (Note the opinion of any Policeman-Amateur like Wal Salmon, VK2SA.) The remainder are interested to watch demonstrations and will try a simple set or two, but need more time in coaxing them than most of us can manage.

Old b.c. sets are obtained from radio repair shops and by public appeal. These are stripped, the parts given free to constructors and names written down so that parts can be recalled if not used. A set of 22 stencilled sheets is available for distribution, ranging from "Crystal Set" to "Colour Code and Valve Sockets," details of Awards by W.I.A. (VK2 Division), circuits for sets using one or two valves or transistors, Morse Code and Oscillator, A.c. Power Supplies, Midget Amplifier, etc. (Copies available if anyone interested.)

VK1LS at Lyneham High transmits during lunch times and after school, and another station may operate from the Police Boys' Club later in the year. On Friday nights at the Canberra Radio Society, steady progress is made through the W.I.A. (VK2) Correspondence Course (but the work is not allowed to interfere with High School home work!). Canberra is not the most active centre; the details are given here to suggest a line of action for others interested.

Most countries similar to ours in social standards have been shocked in recent years by the increase in serious crimes committed by some adolescents. It is quite likely that this wave of anti-social behaviour is coming our way. Its severity in this country cannot be predicted but some work now on preventive measures would certainly soften the impact. Nobody knows the full answer but a challenging interest like Amateur Radio is certainly part of that answer.

Any work you do on Youth Radio Clubs can only be good for Youth and Amateur Radio.

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

BAND CUTS

Editor "A.R.," Dear Sir,

I have read with interest the many letters, etc., which have appeared in "A.R." of recent months on our band cuts and alterations.

I can fully see the implications of the allocations of Channel Zero for t.v. as most Amateurs do. I work in an area where t.v. is received passably well from Adelaide. On many occasions Melbourne t.v. on Channel 2 causes considerable trouble, completely disrupting the picture and sound at times. This should be a common occurrence with Queensland and Victoria on Channel 0, plus at times a few JAs, Ws, etc., on about 50 Mc.

Why should we worry if trouble is experienced by t.v. viewers, it's not our fault?

Why is everyone moaning about adjacent channel interference on the 52-54 Mc. band? Why do Amateurs always operate from the lower frequency upwards? Why not, instead of getting crystals ground for 52.1 Mc., get them ground for 53.9 Mc.? Surely there is sense in this; it will mean we will be about 1.5 Mc. away from the t.v. channel, and not a few tens of kilocycles away if the usual Amateur practice is followed. Think about it, chaps, it may save a bit of t.v.i. and vice-versa. Don't get me wrong however, I am not in favour of the 6 metre band cut.

A piece in the July issue from the Queensland Division regarding the use of portion of the 10 metre band for Z call licensees. I have always been in favour of this and would like to see it come to pass.

—Rodney D. Champness, VK5ZCD.

Editor "A.R.," Dear Sir,

Somewhere along the line we seem to have our values mixed. I have heard operators congratulating ourselves that we were fortunate to retain what is left of our frequencies.

Should we not organise a national day of mourning for the frequencies we have lost. How much of the 40 mx band is left? Odd spots between commercials is all I can find.

What are the weird and wonderful noises scattered across the 20 metre band?

Look at our 80 metre band. It is frustrating to hear the ZL boys working up to 3.9 Mc. and we are confined below 3.7 What is the reason? If this section is required in VK, why not in ZL?

Try this experiment. Listen closely for a couple of hours to from 2 to 30 Megs., on a good communications receiver. Some sections appear to have nothing, and are dead compared with the Ham bands.

I feel very apprehensive for the future. In a world of electronics what will youth have to look forward to for a worthwhile hobby?

Do not be apathetic about the situation, or under any delusion. We are on our way to extinction if something is not done.

May I make a suggestion to the powers that be.

We hope that there will never be another major conflict, but if there is, science will win it, and there will not be time to train anyone. So encourage the study of the sciences, particularly where people do it voluntarily, in their own time, and at their own expense.

Give it serious thought.

—M. W. Ives, VK7MX.

Editor "A.R.," Dear Sir,

I have just read VK2ZBL's letter in July "A.R." on Channel 0 and I wish to add a few comments of my own.

It seems to me that not much can be done at this stage to alter the allocation and/or use of this channel. It is more important to consider the effect of the Amateur on this channel and how t.v.i. may be minimised. In the U.S.A. when Channel 1 was in use a similar state of affairs existed in the location of the 50 Mc.: band as does our 52-54 allocation. My suggestion is that activity should be concentrated in the high end of the band (53.5-54) in those areas where Channel 0 operates and in the other end of the band in Channel 1 areas. This will place the Amateur's signal as far away from the t.v. channel as possible, so reducing the difficulty of using traps to prevent adjacent channel interference.

Another factor is the usefulness of the types of trap at present in use. Most of these do not have sufficient Q to remove interference without removing a large slice of the t.v. signal. However, more elaborate devices should be able to handle such conditions adequately. As an example, I use a low pass filter in the tx output which has no significant attenuation at 50 Mc. while having attenuation of better than 30 db. at 52 Mc. Something along these lines may prove effective.

Rather than ceasing to use our hard-won allocation at this frequency, I feel we should persevere with its use and hope that measures such as those suggested prove effective.

—Peter A. Lowe, VK3ZDO.

SPLATTER

Editor "A.R.," Dear Sir,

With reference to the article, "Splatter—Its Cause and Prevention" ("A.R.," July 1962), I would like to point out that the splatter source mentioned, and its cure, were treated in "A.M. Without Splatter," which appeared in "A.R." for February 1961. The enhancement of certain frequencies in the O/C modulation transformer transients by the leakage inductance and distributed capacity was not considered in the earlier article, but the basic cause of the type of splatter discussed, and its cure, are nevertheless the same. However, this is by the way.

My real reason for putting pen to paper is to criticise the last two paragraphs of the 2JR article. To attempt to defer criticism, justified or otherwise, by quoting famous personages out of context and calling such criticism, if forthcoming, "hysterical correspondence" is, to say the least, unethical. It smacks, in service parlance, of "pulling one's rank," in this case educational rather than military, and is completely at variance with the scientific spirit, one of the underlying principles of Amateur Radio.

If Joe Blow, from practical experience, thinks that an article published by a professor of electrical engineering is rubbish, he has every right to say so, provided that, in his opinion, his reasons for differing are based on good grounds, and that he does not descend to personalities. One of the finest things about Amateur Radio is the fact that it gives each and every one of us an opportunity for constructive discussion without having to break down the social and educational barriers imposed by society on everyday living. If Joe Blow is wrong, then none should dismiss his considered opinions as "hysterical," but try to point out why he is wrong in a reasonable manner. Then at least he, and possibly quite a few other readers, will have a better understanding of the subject.

Similarly, with reference to some recent correspondence, rather than taking the Magazine Technical Advisory Committee to task for publishing "questionable" articles, one should consider their unenviable position as regards publishable material. There is always a dearth of good, down-to-earth articles which will appeal to the majority of readers. If the IN tray on the technical editor's desk is always full to overflowing, I think we can all be sure that questionable articles will be in the minority. I say questionable rather than controversial, since controversy can be a stimulant to progress. An occasional controversial article is all to the good, provided that the arguments which ensue are fought within the bounds of that part of our code which states:

"The Amateur is Gentlemanly."

—Bob Roper, VK5PU.

P.S.—The shunt diode has long been recognised as a good limiter, and will certainly reduce substantially the splatter due to negative peak over-modulation. Perhaps I am a perfectionist, but it is my humble and considered hysterical opinion that there will be even less splatter from rigs employing such limiters if the shunt diode is followed by a high-level low-pass filter, since even hard diodes generate switching transients.

[The Publications Committee would welcome an overflowing IN tray of Technical articles, as at present "A.R." has only two articles available for publication. Every Amateur station would be well advised to adopt some form of audio frequency range limiting, the bass frequencies add little to the intelligence but create heavy modulation; the higher frequencies in the audio range add little to the intelligibility but do greatly increase the sidebands radiated. Thus irrespective of the pros and cons of n.c.l., a low pass filter increases the effective modulation and at the same time decreases the sidebands. The most effective audio range, for speech, is from approximately 300 c.p.s. to 2.5 kc.—Editor.]

APPRECIATION

Editor "A.R.," Dear Sir,

Unlike most of the letters which have been published in "A.R." in recent years, this one is intended to be one of appreciation.

I wish to thank all those associated with the production of this magazine for their efforts in bringing out our own magazine each month.

Suggestions have been made at times to limit its production to six or even fewer copies per year. This would be a backward step I believe.

One feature which I would like to see revived is that giving brief reviews of "QST," "Break-In," the R.S.G.B. "Bulletin," "Short Wave Magazine," and "CQ" etc.

Few of us receive all of these magazines each month, however if a particular copy contains something of interest to us most of us could do something about seeing a copy in a library. Perhaps others would care to comment on this matter.

In general, I enjoy reading "A.R." The July issue, particularly, catered for a wide variety of interests.

Please accept my thanks for what must be at times a frustrating task.

—Max Riley, VK2ARZ.

P.S.—I need a copy of "A.R." for January 1951 to complete my bound volumes '50-'62. If any reader could assist me to obtain this issue, I would be very grateful.

VINTAGE HOME-MADE COMPONENTS

Editor "A.R.," Dear Sir,

I was very interested to see the photo of Mr. Max Howden's 1925 vintage receiver published on the cover of the July "A.R." I am wondering if it is still intact as it should be a valuable museum piece and an example of ingenuity of the early radio fans. (It is, the photo was taken only recently.—Ed.) I do recall the filament rheostats were something more than I attempted. Your question "How many Amateurs today could build their own tuning condensers?" prompts me to write.

I have an old home-assembled tuning condenser made in 1923. I purchased the two types of plates with the spacing washers, made the spindle, three clamping bolts and the ebonite end plates for a 0.0005 μF. tuning condenser. My first experience on the short waves, then around the 200 metre band. I made a low-loss set as they were termed, long ebonite handles were used on the spider coils of the three coil tuner, the aerial and reaction coils were moveable and every precaution had to be taken to make the set leakage proof and avoid body capacity.

The tuning condenser for this set was made from tin foil glued to three ply, each about 4 x 5 inches, with one hinged at the bottom and moved in towards the other by means of a long ebonite handle. The valve was an Ediswan AR06. Unfortunately it did not last very long as I overheated the filament and it went west. The B battery was composed of a number of flat 4½ volt torch batteries, soldered together for high tension. Ediswan earphones were used. I still have two Philips A310 dull emitter and one Osram R5 valves intact. The aerial was a twin wire, each 66 ft. long with 5 ft. spreaders and about 30 ft. high.

The next was a four-valve t.r.f. using three A310's, same valve in each stage, with 90 volt high tension. Hellensen's were now supplying 45 volt batteries. This set gave excellent reception, the r.f. stage helped considerably and the two audio stages gave good loudspeaker volume, for those days.

There must still be a few very old parts about, home-made fixed condensers, grid leaks made on paper with soft carbon pencils, old valves not listed for many years, and other parts which although very crude in construction yet gave results on the very low power used in those days.

If my few relics are of any use to the Institute, I will willingly send them in so that a range of old parts may be kept for posterity.

—Harry Major, WIA-L3102.

☆

WORLD CALL SIGNS

The Federal Treasurer, W.I.A., again has for sale recent back numbers of "Call Book Magazine". Some copies list American Amateurs only, others list the world except America. These are a gift at £1 (either edition), post paid. Apply to the Federal Treasurer, W.I.A., Bob Boase VK3NI, 50 Cardigan St., Carlton, Vic.

REMEMBRANCE DAY CONTEST

SAT.-SUN., AUGUST 18-19

1800 hours to 1759 hours E.A.S.T.

See page 12, July "A.R.," for rules.

V H F

50 - 144 - 288 - 576 - 1296 Mc.

Sub Editor: BILL ROPER, VK3ARZ,
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

An effort is being made to publish the October issue of "A.R." as a special v.h.f. edition. All V.h.f. Groups have been contacted and a number of very interesting articles have been promised. However, still more are required. It will be far better to have too many articles than not enough. Any not used in the v.h.f. issue will most certainly be published in future issues, because "A.R." is always in need of interesting material.

It does not matter whether it is a full coverage of a transmitter, converter, mobile equipment, etc., or just an item for the Hints and Kinks section. How about putting pen to paper and submit it to the Editor of "A.R.".

Remember, "A.R." can only be as interesting as YOU, the active Amateur or S.w.l., care to make it.

There has been a suggestion that the v.h.f. page should include a small Hints and Kinks article peculiar to v.h.f, each month, but this, of course, will depend entirely on whether any such items are submitted to me for publication. Also, any photos suitable for publication will be most welcome.

During the winter months v.h.f. activity falls away considerably, even though there is still some DX about (see the following State notes). I hope that the inactive operators are not inside watching the "idiot box," but are busily constructing gear for the forthcoming v.h.f. field day season. All States will be having a series of field days and there is a possibility that everybody may be able to co-operate and get together on at least one field day.

Incidentally, have you passed that information regarding aurora v.h.f. contacts along to David Rankin, 3QV, as previously requested?

There appears to be a lot of confusion about which frequencies we are able to operate on in the "6" metre band. Even though the band became 52-54 Mc. officially on 1st July, we still have the use of 50-52 Mc. until further notice from the P.M.G. So those of you who have already cut the ends off your beam elements had better stick them back on and join in the DX activities. 73, 3ARZ.

NEW SOUTH WALES

50 Mc.: From A1 2ZFB, the following: On 10/6/62 worked eight VK5s between 1400 and 1600, heard KH6 S4 in and out. 17/6/62 open to VK5 between 1200 and 1750. 24/6/62 heard crossband duplex between 5ZDR and 5ZBI at 5 and 9 plus, but unable to break in.

Stations heard regularly on 6 mx are 2ZAV, 2ZVL, 2ZFB and 2ZJN who has moved from Inverell to Kingswood, 25 miles west of Sydney.

144 Mc.: The June fox hunt was won by Dave 2AWZ with Paul 2ZPJ second. Time beat the third place getter. The fox, Barry 2ZAH, hid off the end of Quartersessions Rd., Hornsby, where it was very hard to obtain cross bearings to pin-point the location.

At the July meeting, the lecture was given by Les 2ZBJ on v.h.f. converters. The lecture was particularly interesting as Les had brought his transistorised converter using AFZ12s with a noise factor of 2 db. along.

The lecture at the August meeting will be given by Mullard and should be very interesting. 73, 2ZLB.

VICTORIA

50 Mc.: During the month there have been a few openings on 6 mx to VK4. These took place on the following dates: June 17 and 18, July 3 and 7. On some occasions it almost seemed like the middle of summer as regards the activity on the band. George 3ZCG, at Morwell, reports a contact with a VK5 and a VK4 on June 17. 3WI had their first VK4 6 mx contact with Laurie 4ZGL on 7th July. David 3QV has burnt fingers to prove it.

John 3ZCB, at Olinda, was control station for the June scramble, which resulted in a tie between Ken 3ZKK and Ivan 3ASG.

144 Mc.: June produced quite a lot of activity on 2 mx, much of which was attributable to Oscar II. Stations were heard in QSO at all hours of the night and morning and every second word seemed to be "Oscar". The interest shown in this project was very pleasing to see and if all stations concerned send in logs the organisers will have no doubt as to the ability of VK3s to carry out any future experiments.

New stations on 2 mx this month include Bob 3ZRD in East Brighton, running 21w. to a cloverleaf antenna via a 522. His rx set-up is home-brew using 954s in the r.f. end and 955s as mixer and oscillator. Ross 3ZNR is another newcomer and uses a Minitran to a 4 element yagi with an "R. & H." converter to a home-brew rx.

The N.W. Zone conduct a hook-up on 2 mx on Thursday nights at 1930K.

Rod 3ZIW, at Sandringham, was control station for the 2 mx scramble for July. The result was a tie for 1st in the city section between Jack 3ZJF and Bill 3ARZ, whilst first in the country section was Daryl 3ZNC at Geelong. Jack 3ZJF is to be control station for the next scramble on August 12.

288 Mc. and above: Experiments are still being conducted on 576 Mc. by Geoff 3AUX and Mack 3QO. Geoff also has his Amateur t.v. equipment ready to go. Another Geoff, 3ZFX, is experimenting with t.v. on 288 Mc. with encouraging results.

During the month the Sunday morning news broadcasts were commenced from the rooms. Results from the v.h.f. gear are excellent, according to all reports to hand at the moment. Troubles in the v.h.f. converters have been attended to and crystals on the calling frequency in each band have been obtained. A pair of stacked cloverleafs are in use on 2 mx and a turnstile is under construction for 6 mx. Thanks are extended to the many people who assisted in this project.

Copies of the 2 mx frequency list are available during office hours from the rooms, or at V.h.f. Group meetings, price 6d. each.

VK3 v.h.f. news items may be passed on by mail to 62 Lucerne Cres., Alphington, or by phone to 49-1521, or on 2 mx on Friday nights between 1900 and 2000K. 73, 3ZLT.

QUEENSLAND

Six metres is still alive in Brisbane! In spite of the fact that we will lose the first two megs, building of new antennas and equipment is again in motion following a temporary lull in such activities. We had DX break-throughs to VK3 and VK5 on 17th June, and to VK3 on 25th June.

Kev, formely 4ZDK, is now 4ZR, and has been heard on 6 mx a few times since the full call arrived, but after that was never heard of again. Come on v.h.f. again Kev.

Of all the many v.h.f. projects now in progress, the most notable to occur this month, and by far the hardest manually, was when 4ZBZ cleaned up his shack. Another interesting doing by this gentleman consisted of clinging to the top of a 75 ft. tower by two legs while using both hands to fiddle with an armature.

Six metres is a very reliable band in Brisbane. If you turn on your tx 4ZBD is always listening. If you turn on your rx, 4ZEL is always talking—you can't miss.

There are two new stations on 2 mx this month: Arthur 4ZGA, who uses a 4 el. yagi for 2 mx, and can listen on 6 mx using a log periodic antenna. The other 2 mx station is Frank 4ZAS, from the happy suburb of Sunshine. Frank runs about 8½w. input, thence to a 4 el. yagi and receives on a super-regen.

Apparently one of the best things to happen on v.h.f. recently is the promise of the 420 Mc. band. Already equipment is being planned for this band and it would appear that an Amateur t.v. station will make its appearance known. Well, it is 30 Mc. wide, so there should be room for everyone, if the t.v. stations and mod. osc. keep to the high freq. end of the band.

The new meeting premises of the V.h.f. Group are quite good, but it is now apparent that re-organisation of the V.h.f. Group will have to take place, but the usual question arises: Who is going to do it? 73, 4ZBT.

SOUTH AUSTRALIA

50 Mc.: Sporadic E DX on this band has been quite good in June. On 8th June, 4ZJS put strong signals into Adelaide in the early evening. This was the only VK4 heard. Then on June 10, a Sunday, VK2s were worked, and on 13th VK4s. Sunday 17th, the band was open for four hours from 1400 hrs. E.A.S.T. The opening started with VK4 and then moved down through VK2 and finally into VK3. Signals were very strong and a number of new stations worked their first DX. The next day, 18th, VK4s were worked in Adelaide.

New stations on 50 Mc. include Leith 5LG and Trevor 5ZMT. Clive 5ZAT, of Hillcrest, is running 20w. to a 4 el. beam. Colin 5ZHJ, of Gawler South, is on 50.5 Mc. and running 25w. These four new chaps are part of quite a large increase in 50 Mc. stations in this State.

When we all go to 52 Mc. in 1963, VK5 is quite keen to see an Australia-wide calling and/or distress frequency. This would be invaluable for W.I.C.E.N., emergency use, or raising activity on a dead band. We are considering a suitable freq. and open to ideas.

144 Mc.: This band has been quite active also. Mick 5ZDR has been employed out of town, resulting in no regular skeds with 3NN. 7ZBA has mobile on 144 Mc. in Adelaide this month. Ern 5EN, in Pt. Pirie (130m. north), has made a comeback on 2 mx. Bob 5ZFG has put up a 16 el. colinear array on 2 mx.

One new station on 144 Mc. is Trevor 5ZIS (144.14 Mc.). Trevor is about 100 yards from Gary 5ZK, who does quite a little work on 144. Also new on 144 is Cor 5ZKC (previously PA0CHT), who now lives in Tranmere.

General: The 50 Mc. beacon has been given a new lease of life with the acquisition of an ideal location. A lot of the details have still to be finalised. Details will follow.

Project Oscar II. was closely followed here in VK5 with mainly 5ZFG, 5TN, 5ZK and 5ZCR participating.

On 10th June a 6 mx scramble was held. Rick 5ZFQ being outright winner. Bart 5ZGB is now 5GZ.

News is to hand from the Mt. Gambier v.h.f. group (previously the s.w.l. group) that a field exercise will be held on the long week-end, 6-7-8 Oct., 1962. The group will be on Mt. Edward and have gear on 50, 144 and 288 Mc. They have the use of a 90 ft. tower on Mt. Edward in addition to a petrol-motor generator, and also liaison gear on 80 mx.

Keep an ear open for this party, which will include 5ZER and other new licences from the South East. 73, 5ZCR.

WESTERN AUSTRALIA

Oscar II. was first heard here on June 4. After some delay caused by unexpected troubles the combined effort tracking unit went into operation. The sigs. in VK6 were, for the most, very poor but improved towards the end. The passes were recorded and logged and much valuable information and experience gained. If in the future Oscar III. should be launched, the VK6 V.h.f. Group will be to the fore in tracking, recording and reporting its progress. Some of those who gave invaluable service on the unit were Rolo 6BO, Don 6HK, Rod 6ZDS, Mac 6MM, Doug 6ZDW, Wally 6ZAA and the t.v. group Cedric 6ZBC, Kevin 6ZCB and Tom 6KS.

Cocos Is. Beacon: Lance 9LA has indicated a yagi antenna as most suited for the location. A 3 el. wide-spaced beam is being constructed and the gear is in progress. Further information will follow. VK6 would like to hear the freq. of proposed beacons in other States, send info to Alyn 6ZDM, 13 Narrung Way, Nollamara, W.A.

Field Day: A successful field day was held on 24th June. 26 stations went to 13 different locations, forming a rough semi-circle around Perth; 8 home stations were reported working. Ian 6CL in Miling was the only country station heard and worked. The next field day will be in Sept. with a larger operating period, we hope.

Mav 6ZDQ has been heard on 144 from Pearce. 6ZDO has been on 50, Neil 6ZDK has had cross band tests, 144 to 50. Peter 6VR, ex 6ZDR, and Charlie 6LK, ex 6ZCE, received full tickets this month.

Don 6HK's 576 Mc. xtal locked converter is working. Wally 6ZAA informs me his 1215 Mc. gear is not xtal locked. Rod 6ZDS has had trouble as his 1215 Mc. super-regen. rx will not regen. 73, 6ZDM.

TASMANIA

The last meeting of the V.h.f. Section was held on 20th June and after an unusual large amount of business was dealt with, we retired to David 7ZAI's place of labour to drool over one thousand dbs. worth of "Racal" general coverage receiver. It was a most enjoyable evening.

Project Oscar: The last southern station to hear signals from Oscar II. was Wilf 7ZAQ. Comprehensive reports are being prepared by several stations.

(Continued on Page 19)

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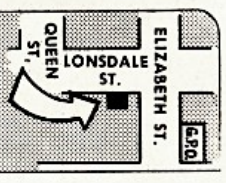

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Sub Editor: BUD POUNSETT, VK2AQJ,
6 Alice Street, Queanbeyan, N.S.W.
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

AUTOMATIC LOAD CONTROL

As mentioned in last month's notes, a.l.c. is well worth the trouble of installing the few components necessary in your transmitter. The fewer the components involved, the more attractive this becomes. This circuit has been installed in my own transmitter and I now find that once adjusted, I do not need to keep an eye on the oscilloscope. With the gain of the transmitter automatically controlled, there can never ever be any flat-topping.

The circuit is straight-forward and requires little explanation. You will soon get the feel of the thing and you will find that the setting of the 50,000 ohm potentiometer can be done easily by trial and error. Your 'scope pattern will show you the correct setting.

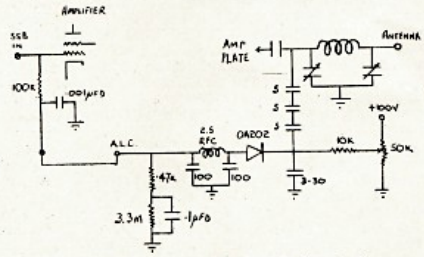

Fig. 1.—Automatic Load Control.

This potentiometer sets the delay voltage and can be compared to the divider network which gives delay to the a.v.c. in your receiver. The semi-conductor rectifier used is a silicon type which has a very high back resistance and is to be preferred to a germanium unit. The time constant is set by the 0.1 μF. capacitor and the 0.47 and 3.3 megohm resistors. The 0.47 megohm resistor and 0.1 μF. capacitor determining the attack time and the 3.3 megohm resistor across the capacitor, the decay time. Any by-passes on the a.l.c. line should be kept to a minimum as this will affect the attack time.

The amplifier that is controlled must have a variable gain characteristic and a type 6BA6 tube is used in my exciter immediately following the mechanical filter. A meter in the cathode circuit of the 6BA6 tube will indicate when compression is occurring and will also give a relative indication of the degree of compression.

It is my opinion that a.l.c. is essential in every s.s.b. transmitter. Have you ever been accused of over-driving your final? You have! You need a.l.c., OM.

A FINAL FINAL ON THE VICEROY

Geoff 3AC has been further experimenting with his KW Viceroy tx and sent along these further comments.

"I have now used a simplified method of tuning up the i.f.t's. in the Viceroy. The method is to inject audio frequencies instead of r.f. for lining up these circuits. I find that the method is more accurate. It eliminates the need for a source of r.f. signal and an external v.t.v.m.

"Simply inject 550 c.p.s. into the microphone input and turn up the gain until grid current is indicated, but with no plate power on the 6146s. Then peak up the primary and secondary of IFT1. Now inject 400 cycles and peak up the primary of IFT2. Change the audio frequency input to 1,800 cycles and peak up the secondary of IFT2 and the primaries and secondaries of IFT3 and IFT4 on this frequency. The peaking up is observed on the panel meter switched to the grid current position. It will probably be found that grid drive will be needed to fully drive the 6146s after the peaking up process has been carried out. This is all to the good since it means that the 435 kc. amplifier, the EF89, will be operating well within its capacity. If overdriven, splatter will be created in this stage.

"Finally a word on c.w. With the Viceroy full break-in is, of course, possible. However, in the Mark 2 tx, the keying circuit operates the Vox system, and it will be found that the relay will drop out too quickly when adjusted to the optimum speed for voice. The solution to this problem is to obtain a monitoring signal on a speaker and place the microphone close to the speaker. The volume control on the tx should, of course, be turned right off. While the key is pressed down, transmission will be continuous, but the relay will drop out when the key is lifted. The result of this procedure is to eliminate the need for re-adjustment of the Vox relay potentiometer controls when switching from s.s.b. to c.w."

160 METRES

This is in the nature of a plea. Have you been active on 1.8 Mc. yet using s.s.b.? If the answer is yes, please let me have the details of how you produced this signal and what you are using as an antenna. Your results on this new band will be of great interest also. Write me or look for me below 3.7 Mc. most evenings.

80 METRES

With band conditions on 7 Mc. very erratic of late, why not make more use of 80 metres during the day? Some of the chaps are already doing this and are enjoying pleasant QRM-free contacts. 80 metres is used extensively in the U.S.A. during the day over paths as long as 500 miles or so. Make a habit of listening on 80 during daylight hours, you will be surprised.

ERRATA

Some errors have been noticed in recent information on the Viceroy modifications. An obvious one, "a.c.a. mains" should read "a.c. mains"; in the paragraph dealing with reducing low frequency response, the capacitor should be 150 pF. and not 1,500. In reducing high frequency response of wide-range microphones, the capacitor should be 500 pF., not 5,000. 3AC and myself send apologies if this has caused you any inconvenience.

☆

VHF NOTES

(Continued from Page 17)

50 Mc.: No DX has been worked to date in the current season, but 7ZAV has heard 5ZMK at 5/9 plus. Teleprinter and commercial hash has also been heard. Bryan 7ZBE now has a TBY transceiver fired up on 6 mx, it should be a good little rig when some mods. are completed. Charlie 7KS is testing a 6 mx converter and it is hoped that a tx for this band will be placed on the project list.

144 Mc.: A new station on this band is Danny 7ZDM, who is using a converted 522 on 144.7. Phil 7ZBA/M has returned after a six and a half thousand mile trip to VK8—he worked a good many 2 mx stations on his way through VK3 and VK5 and received consistently good reports. David 7ZAY is in the process of firing up a QQE06/40 linear after his 522, running 90w. —it will be interesting to hear the result.

A word for "The Voice". Keep off 2 mx mate, some people can hear you. 73, 7ZEE.

PORT MORESBY

The main item of interest during June was the successful launching of Oscar II. 9ZBV and 9AU were the only stations equipped to receive the signals from Oscar, and altogether a total of 14 passes were observed and recorded. It was found that only the pass nearest to overhead was audible in Port Moresby. All information obtained here has now been airmailed to America. At one stage or another of the reception of Oscar, both participating stations had four 6CW4s in cascode ahead of their 2 mx converters.

Only other 2 mx news of interest came from 9GK who on 2nd June placed a carrier on the band. He is now building a modulator to assist the carrier, and a converter. 9CK has an almost completed rig for the band with an 832A final and 9AU is the proud possessor of an American mobile tx with an 829B final, which, coupled to an a.c. power supply and modulator, went on the air on 2nd June.

On 50 Mc. activity was low and the only DX heard was at 2110 on 31st June when 9AU heard two JA stations. 49 Mc. TE scatter was heard on a number of occasions.

The 52 Mc. band was christened with a contact on 2nd June. Xtal freq. for any who may be interested are: 9ZBV 52.180, 9AU 52.2 Mc. If anyone is interested in running skeds on either 52 or 144 Mc., drop us a line C/o. P.O. Box 216, Port Moresby, and we will be pleased to arrange them. 73, 9AU.

D X

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526—7 a.m.-4 p.m.)
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Conditions this past month have been down, but during the winter this is the usual occurrence. It is not until spring that the bands begin to liven up again. Right now the best band and period would be 14 Mc. during the afternoons. After dark this band falls away, leaving little but the QRN, and does not come to life again until morning when the band opens to the west, when, firstly, Europe is workable, then the circuit extends into the long path to America. Central America is often audible at this time.

7 Mc. is open at night but little of consequence has been heard. Mostly Js and UAs. On 21 Mc. Ws can be worked during the day, but nothing else.

NOTES, NEWS AND ADDRESSES

CR8AR, Portuguese Timor, is on nightly from 1100 hrs. GMT to 1400 hrs. GMT. Call 10 up from his frequency of 14110. He does, however, work stations on and below his freq. Get in the queue. His sigs. mostly skip VK4.

WA6CJL/KP6, Christmas Island, QSL manager W6AFI. Most afternoons 14 and 7.

AC4NC, Nera Chakravarti, Indian Mission, P.O. Gyantse, Lhasa, Tibet. 7 Mc. c.w.

VE0MC, C/o. 202 Harbor Rd., Victoria, B.C., Canada.

W0MLY is really using up the new African prefixes. In the last few weeks he has run through TR8, TL8, TT8, TJ8 and more to come. Best time to work him is around dusk or dawn our time. Call five up from his freq. of 14010. Have no info on his s.s.b. activities. He is supposed to work also 21 and 7 Mc.

VK2VC/LH is on now but for how long is not known. 7 and 14 Mc. s.s.b. and c.w.

FO8AN, no late news on Danny Weil, but if you want a QSL send to W8EWS.

OA4JH: Sporadically on both 7 and 14 Mc. phone and c.w. Try around 1030 hrs. GMT.

9M2FZ: Wong Ching, 31 Free School Rd., Penang, Malaya.

HS2M: Seato-MPO, APO 146, San Francisco, California, U.S.A.

K5FOQ/KS6, and one or two others, are active from Pago Pago, s.s.b. and c.w.

VR5AA is active on 3.5, 7 and 14 Mc. c.w., various times from 0200 hrs. GMT onwards.

TG9AD is still prominent each afternoon, around 0500 hrs. GMT. He works VK readily, and says he is fairly new on c.w., so please don't QRQ.

FO8AA, a regular on 7070 approx. Good time around 0700 hrs. GMT.

HL9KB, HL9KR, HL9KD and HL9KN, JT-1AG on 14 Mc. nightly around 1000 hrs. GMT. All c.w. QSL for HL9KR is via K7KID.

6O1ND, P.O. Box 397, Modagiscio, It. Somaliland. When conds. are right, he is easily workable around 14010 kc. in the mornings our time.

AP5AH, AP5CP, East Pakistan, new country. 14 Mc. c.w. nightly, 1000 hrs. GMT.

FW8BH, as is the case with most expeditions, it would seem that things have not gone exactly to plan, with Bill VK3AHO. It seems he is restricted to operating times dictated by the power supply available. He is on s.s.b., but so far I have heard no c.w. from Wallis Is.

HP1IE, Panama City, QSL via W2CTN.

VR1M, QSL via W1HGT.

HI3PC, CX7CO, YVs, HKs, KP4s are still workable on 7 Mc. at night around 1030 hrs. GMT, with a little bit of luck.

ZL5AD is now on 14 Mc. phone. Week-ends in the early mornings might be the best time.

VP9AK: During week-ends, around 14010 kc.

Gus W4BPD. Latest reports coming from Gus' trip indicate that the trip back from VQ9AA was a harrowing experience—seasickness amongst the crew members, waves 20-25 ft. high, with 25-45 knot winds. All eating out of cans and somewhat frightened. Breakers sometimes came over the boat, everybody was wet most of the trip, radio gear wet—long periods of drying out. "There will never be another Ham station on the air from Aldabra, so fellows needing it had better get it this second time." Call this time will be VQ9A/VQ7 from Aldabras. A recap of the freq. to be used by Gus for general operations are: C.w.—3535, 3565, 7001, 14035, 14065, 21035, 21065, 28035, 28065; S.s.b.—3765, 3995, 7001, 14125, 21235, 21435, 28235, 28635. Please, only two QSOs per mode, per band.

Dahomey. 5N2RDG plans an expedition to TY in Sept. or Oct. on 20 mx c.w.

The following is supplied by Bev Cavendar, W4CKB, of the Florida DX Report: Qatar, John Garrett will be on Qatar for three to four months starting 1st June. C.w. 14070 to 14080. S.s.b. on 14120, listening 14320, daily. QSL via Ray Geophysics Ltd., T-567, C/o. Q.P.C., Umm Said, Qatar, Persian Gulf.

Campbell Is. ZL4JF is now active again on s.s.b. around 0530-0600z.

Marion Is. Sorry to say that things do not look very good for the activity from Marion Is. As best as we can determine, there is no a.c. power on the island. One of the boys in South Africa is looking into the matter. One of the operators was to be ZS6PC operating s.s.b. from ZS2MI this month.

Corsica. Walter DL9PF will be operating with K9PDA from Corsica, 9th to 29th July, all bands, all modes, 24-hr. service if necessary.

DX-pedition planned for later this year by the VS9K party to go to Kuria Muria, a British-owned island off the East Coast of Oman. It is under political dependency of Aden. Total area of the five islands is 28 miles. Islands were acquired by Great Britain from the Sultan of Muscat for use as a cable station. This should count as a new DXCC country. (Ha, ha, what next?—Al.)

A report from the States says that AC4NC, AC4CE are pirates. No genuine Amateur AC4 station is active from Lhasa. (I think this info will prove to be correct, knowing the political situation there.—Al.)

TZ8BF is active from Bamako on 14 Mc. c.w. QSL via R.E.F.

ACTIVITIES

Chas L2211 sends in some nice ones received on 14 Mc.: ON4NA, VR3UA, VR3B, G2PU, G3PLV, G5PM, G3MWG, G6DW, GM3NZC, JA1GC, JA1MJ, JA2MF, XE1IL, XE1CE, XE1FW, XE1HR, TG9MO, YN9CIL, F2UT, F9QU, PY2AIE, VE7QB, EA3JE and others.

Eric BERS195 comes up with his usual comprehensive list received. 3.5 Mc. c.w.: G3JFF/MM, VR2EG, VR2DK (0945z), VR5AA, ZL2FX/MM. 7 Mc. c.w.: AC4NC (1215z), DU6TY, HA5KFR, JA1IB, LZ1KBL, LZ2KBA, LZ2KKP, SM5BIC, TI2LA (1145z), UA1KFL, UA4KAC, UB5KYC, UC2BW, UC2KAR, VE7AA, YV2BJ (1115z). 14 Mc. phone: VK0DS (0745z), ZL5AD. 14 Mc. c.w.: BY1PK (1245z), CR9AH, FB8XX, FK8AS, HL9KB, HL9KN, KM6CG, KV4AA, UA-1KED (1315z), VR3H (0630z), XE1OK (0645z), YJ1RH (1030), VE0NU. QSLs rcvd.: DU1OR, FO8AN, KX6AE, 6AJ, OA4JH, ZS4MG, 9M2FZ, VE0MC, VK3NR/MM.

Ted VK5JE, who is now DXCC on 7 Mc., worked the following good ones during June: YV2BJ (1125, 1050), HK7ZT (1005), HI3PC (1030), W1MV/KP6 (Palmyra Is., 1005), HK7YB (1120), VR1M (1030), W0VEH/VP9 (0730), KP-4AAO (1000), VK9RO (1005), G6ZO (2200), G3JAG (0630, 4 p.m. S.A.T.). All times GMT.

Al VK4SS landed these—7 Mc. c.w.: W1MV/KP6, YV5BLT, HK5CR, CX7CO, HI3PC, FO8AA, KX6DK, VR1M. 14 Mc. c.w.: VR5AA, W0MLY, YJ1RH, HL9KB, HL9KN, JT1AG, TG9AD, 5N2LKZ, PY2DGB, 6O1ND, DU1RTI, 5T2AR, KR6AJ, K5FOQ/KS6, HK1QQ, HP1IE, AP5CP, CP5EZ. All between 0500-1100 hrs. GMT.

Chilla VK4SD has a lament. QSL confirmation trouble. If you have the QTHs of any of the following, Chilla would be happy to receive same, and so would I, too, for that matter. HR1AA, OD5LX, OD5AV, OD5LJ, VP-5PZ, FF8BZ/FL9, HH2JV, 9K2AD, YY8AG, UJ6AC, 5H3HZ, FW8AB, VP6KL, VP6PJ, VP-6RG. (Will drop you a line giving you other QTHs you need, Chilla, OB.)

Frank VK2QL worked the following, 3.5 Mc.: VR5AA. 7 Mc.: YV2BJ, AC4NC. 14 Mc.: 5N2LKZ, W0MLY/TL8, TT8, TJ8. QSLs received were EP1AD, 9Q5AL, 9Q5AA, I1BNU/Trieste, 6O1MT, 6O1ND.

Graham VK2AGH scooped the cream with these. 21 Mc. a.m.: CR5SP, ZE6JM, ZE7JR. 14 Mc. c.w.: W0MLY/TR8, TL8, TT8, TJ8. 7 Mc. a.m.: AC4NC. 7 Mc. c.w.: AC4NC and VU2DU on l.p., MP4BBL, RAEM, HL9KN, VR-5CW, VR5AA. 14 Mc. a.m.: ZS1RM, FB8YY, VQ9AA. QSLs recd. UF6AS, 9K3TL/NZ, W0MLT/TR8, VP5BL, F9SC/FC. (Some news each month, pse Graham OB.)

Hal VK4DO has not been very active this month. He says conditions are poor, but worked the following: 14 Mc. c.w.: W, K, KH6, VE, CT1DJ, F2ZE, FA8RJ, G5WP, UR0FF. 14 Mc. c.w. hrd: DL9JF, EA7JA, G3SU, I1BAV, KL-7BJW, OK1US, OK1ZL, OK2GY, SP7HX, VE-8BC, VQ4TV, YO6XU.

Ken VK3TL found that conditions were down this month and he has been in the midst of shifting QTH. He did log these, 14 Mc. c.w.: DU1FM, JZ0ML, OK1ADP, SV0WI, VE2LI/2. 14 Mc. s.s.b.: FK8AC, GC2AAO, K1AZA/KP6. QSLs recd.: BV2A, DJ4DN, EA4GZ, G2DPD, GC2AAO, HM1AP, JT1KAA, K1AZA/KP6, KX6BU, LU2EN, OH2PO, SM-3CPM, SM5BVF, SM5LF, SM7BBY, UA4NM, UB5CG, VU2GE.

Peter Drew forwards a nice list of DX hrd.: 20 mx a.m.: DM3PVL, G2PU, VK0BB, F9BE, W8CAU/CN8, VK9RO, G3KPV, XE1FW, TG-9MO, XE1IL, XE1CE, XE1GX, VK0JM, VU2PP, G3NEL, G2IT, ZS1CD, ZE7JR, KY7BCS, I1ANY, VE7CE, G3KHU (all except VU2PP hrd. between 0400-0800 GMT). 20 mx s.s.b.: VE3CCR, VK0DS, W7VPT/MM, I1RIF, VE7ZM, G3PCI, VE4WS, G3OKQ, VE6IN, VE7HJ, FK8AU, ZS-6AOW, VS1AU, ZS1JA, ZS6OY, DL1VR, ZS-5JW, G3FXB, HB9TL, I1PP, YJ1RH, VR3S, VE4XY, XE1CV, KR6QW, ZS5JM, SM5LL, VP-5BL, DL2AB, VE3PR, VE3BQP, HB1MQ, VP-7NS, GI6TK, W0ANJ/KP6, VE7ALE, G3AWZ, HB9FU, XE1CE (all between 0400-0800 GMT). 20 mx c.w.: VK9LA (Cocos Is. every Sunday at 0230 GMT with VK6RU), UA1KAE (0450). 40 mx a.m.: W5, K7, W3, ZL1, 2, VK9DJ (all 0730-0900). 40 mx s.s.b.: W3, 4, 5, 6, 7, JA, ZL, VE, ZK1BS, KL7CWW (all 0730-0900). 40 mx c.w.: W1, 2, 3, 6, 8, 9, ZL, VE, VK9RO, JAs, UA0 ZG, G3FUN, UA3KGG, UO5OA, UB5KAK, UI8AM, OH2BBR, DJ1XO.

Arie Bles, ex-PA0FM, who is now residing in Springfield, N.S.W., has sent me a very welcome letter on the state of things generally, at his QTH. He says the 20 mx band is still open to Europe in the late afternoons, our time, and also the l.p. to America on most days. He says that 80 mx is still open to Europe around 2100 hrs. GMT, and he has been hearing s.s.b. coming through just below 3800 kc. He also says there are plenty of Eastern Europeans, on c.w. (Good luck with your VK call sign and welcome to the ranks of A.R.) Please send me in any relevant information at any time.

My thanks to VK3TJ for the bundle of DX mags. The first one I opened proved to be very helpful.

In reply to those who are interested in the W.H.D. Award, it is necessary to work all Hungarian Districts (HA1 through HA0). Any bands or modes are permissable. A card to the Awards Manager, C/o. the QSL Bureau, for full particulars would be a good idea.

I must apologise to VK3ZMS whose letter I have inadvertently misplaced. Please don't forget me next month OM.

Conditions for the present are expected to be quiet until Spring arrives, when the bands show some life and the night path to Europe on 3.5, 7, 14 Mc. again becomes usable. From mail I have received, there promises to be some European activity looking for VKs on 3.5 Mc. this summer, so if QRN does not render the bands unusable, some good QSOs might result.

My thanks to all those mentioned above for their time and trouble to help this column along. 73, Al VK4SS.

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"CQ" DX Contest, 1961 Results

C.W. SECTION

Congratulations are offered to VK5NQ upon winning the multi-operator, single transmitter section of the c.w. part of this contest. VK5NQ amassed the sum of 709,000 points. 2nd was HV1CN with 529,356 points.

Other section winners. All band single operator, multi transmitter: DJ3JZ, 1,451,437 pts. Continental leaders in each band: 28 Mc., K2HWL, 7,130 pts.; 21 Mc., PY4GA, 105,616 pts.; 14 Mc., UA9DN, 274,412 pts.; 7 Mc., W9WNV, 146,510 pts. (3rd, VK3ADB with 78,588 pts.); 3.5 Mc., OK3DG, 18,300 pts.; 1.8 Mc., OK1ADX, 740 pts.

PHONE SECTION

Sectional winners: All band, single operator, CX2CO, 876,304 pts.; multi-operator, single tx, VQ4RF, 542,244 pts.; multi-operator, multi-tx, K2GL, 319,144 pts.; Continental leaders on each band: 28 Mc., LU1DAB, 79,643 pts.; 21 Mc., ZB1HC, 57,009 pts.; 14 Mc., ZS7P, 225, 597 pts.; 7 Mc., 4X4DK, 22,410 pts.; 3.5 Mc., I1AIM, 7,560 pts.

FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

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(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

NEW CALL SIGNS (APRIL)

VK—

Australian Capital Territory

1JK—J. A. Koehler, 19 Herbert Cres., Ainslie.

New South Wales

2AIV—R. J. Graham, 44 May St., Inverell.
2APO—F. Cox, 1 Janet St., Merewether.
2AQA—J. E. Hughes, 179 Tower St., Panania.
2AUA—V. R. Pratt, St. Andrew's College, Newtown.
2ZBN—R. Breznik, 23 Judge St., Randwick.
2ZCB—R. D. Conway, 30 Lilac Ave., Leeton.
2ZCO—B. J. Hibberd, 31 Makim St., Dee Why.
2ZCT—A. T. Mullen, Lot 97, Lonus Ave., Whitebridge.
2ZCX—J. R. Williams, 40 Station Rd., Albion Park.
2ZCY—P. M. Crane, 74 Hollywood Drive, Lansvale.
2ZEI—R. L. Lucas, 60 Stanley St., St. Ives.
2ZJI—C. Jackson, 22 Innes Rd., Manly Vale.
2ZNP—J. Birdall, 22 Calbina Rd., Northbridge.
2ZOW—B. T. Hill, 93 Babbage Rd., Roseville.
2ZPQ—A. J. Gray, 37 Culver St., Kogarah.
2ZSD—S. Dubrovich, 21 Grafton St., Eastlakes.

Victoria

3BO—S. C. E. Broadbent, Geelong Rd., Mt. Helen, via Ballarat.
3GI—G. H. Cranby, Lot 61, Walker Rd., Mt. Waverley.
3HA—R. F. Meaney, 21 Moore St., Moonee Ponds.
3IG—B. R. Wilson, 55 Skene St., Shepparton.
3LO—Dennis Radio Club, 159 Heidelberg Rd., Northcote.
3XY—R. R. Prowse, 83 Brewer Rd., Bentleigh.
3AHY—J. Vogel, 6 Frank Ave., Clayton.
3AIP—E. F. Coate, 124 Prospect Hill Rd., Canterbury.
3AOS—R. A. H. Blake, Telangatuk East, via Horsham.
3AXI—H. G. Duggan, Princes Highway, Warrnambool.
3ZIJ—J. I. Brown, Jnr., 5 Yvonne Court, Glen Waverley.
3ZNG—A. Boyle, 46 Regent St., Preston.
3ZNJ—K. W. Jewell, 1 Armstrong St., Beaumaris.
3ZNL—W. A. Whitbourn, 39 The Righi, Ivanhoe.
3ZNM—M. Torma, 7 Cambridge St., Maidstone.
3ZNS—L. R. Stronell, 214 Jasper Rd., Bentleigh.

Queensland

4BL—B. J. Davey, Station: 140 Goodwin St., Currajong, Townsville; Postal: No. 10 (MR) Sqdn., R.A.A.F., Townsville.
4JN—J. W. Mullins, 31 Fourteenth Ave., Kedron.
4ZBD—W. F. Donovan, 55 Meemar St., Chermside.
4ZDC—D. K. Clarke, 3 Lorne St., Alderley.
4ZEK—D. J. H. Gemmel, 87 Elliott St., Hawthorne.
4ZNJ—N. D. Jackson, 9 Park St., Coorparoo.
4ZWB—J. W. Brimblecombe, "Glencoe," Pirrinuan, via Dalby.
4ZWH—W. H. C. Hablutzel, 12 Spence St., Bundaberg.

South Australia

5IB—H. Driemann, Beltana St., Salisbury.
5ID—A. B. Cleave, Seymour St., Tailem Bend.
5PG—R. C. Scott, 33 Stanley St., East Glenelg.
5TZ—A. A. Sinfield, 6 McLauchlan Rd., Windsor Gardens.
5UB—E. Garner, 19 Northampton Court, Elizabeth.
5WN—N. C. White, 3 Derwent St., Cumberland Park.
5ZEG—B. A. McRae, 24 Henry St., Pt. Pirie.
5ZEO—P. J. Gordon, 7 Rawlings Ave., Torrensville.
5ZEQ—R. G. Gully, 10 Mathias Ave., Cabra Estate.
5ZGY—G. L. Tillett, 28 Lincoln Ave., Warradale Park.
5ZIE—R. B. Zielinski-Petersen, 22 Gertrude St., Glandore.
5ZIK—I. K. Carmichael, Yorketown.

Western Australia

6LR/T—L. G. Rock, 36 Essex St., Wembley.
6NJ—J. R. Cox, Government School, Yornup.
6TN—T. S. Long (Portable), 106 Spencer St., Bunbury.
6ZDT—T. M. Stanicic, 77 Constance St., Tuart Hill.
6ZDU—J. Trenning, 133 Boyce Rd., Tuart Hill.

Tasmania

7ZEC—E. Cooper, Collins St., Evandale.
7ZEE/T—N. G. Fisher, "Wallace," Oatlands.
7ZAQ/T—W. J. Emmett, 6 Haig St., Lenah Valley.

Northern Territory

8JI—J. A. Moran, C/o. 2 C.A.R.U., R.A.A.F., Darwin.

Territories

9AT—E. J. Roberts, Station: Lot 3, Section 41, New Boroka, Port Moresby, Papua; Postal: C/o. Radio Laboratory, Depart. of Posts and Telegraphs, Port Moresby, Papua.
9RW—R. A. C. Washington, C/o. I.P.S. Station, Cocos Island, Cocos-Keeling Group.

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FEDERAL QSL BUREAU

The Deutscher Amateur Radio Club (D.A.R.C.), the sponsor of the W.A.E. Certificate, invites the Amateurs of the world to participate in the 8th W.A.E. DX Contest, 1962. This contest was usually held in January of each year, but due to the reduced sunspot activity the DX conditions have been so poor during the last W.A.E.D.C., that the 8th W.A.E.D.C. is tentatively put off until August 1962.

The object of this contest is to establish as many contacts as possible between Radio Amateurs residing in Europe and Amateurs located throughout the remainder of the world. This time the contest will be held on two weekends, one for telegraphy and one for telephony. C.w.: Sat., 11th August, 0000 GMT, to Sun., 12th August, 2400 GMT. **Phone**: Sat., 18th August, 0000 GMT, to Sun., 19th August, 2400 GMT. The c.w. and phone sections are separate contests and entry may be made in either or both.

The following bands are to be utilised: 3.5, 7, 14, 21, and 28 Mc. A control number consisting of two parts will be exchanged. The first part is a numerical RST or RS report, and the second part consists of a three-digit figure representing the number of the QSO starting with 001 and will continue serially even though operation may be conducted on different bands. A confirmed exchange of control numbers will count one point. Corresponding to the W.A.E. Certificate, a confirmed contact established on 3.5 Mc. will count two points. Full details may be had from this Bureau.

Rob Gurr, VK9RO (ex VK5RG, VK1RG), will close down in Papua as from early July. Rob expects to resume activity from VK5RG a little later in the year.

F9HF, QSL manager for the R.E.F., advises that the FC Hams do not QSL. He says it is useless enclosing I.R.C. or money as the result is the same. He himself cannot secure a FC QSL!

The Okinawa Radio Club advises details of the following awards: Okinawa Award, U.S. Marine Corps Certificate, and Okinawa Cotton Pickers' Award. Full details may be had from this Bureau.

Mr. Frank Punch, a radio inspector in Victoria for many years and well known to VK3 members, has, since retiring, journeyed overseas. Frank, writing from Berchtesgaden, Austria, states he is having a wonderful tour and is in excellent health.

Steve Grimsley, well known from VK0VK and VK2VK, writing Mid June, states he has replied to all QSLs received prior to his departure for Boulder, Colo., U.S.A., where he will be working at C.R.P.L., NBS, from August to October. He expects to return to Antarctica with the 1963 expedition. He will return to Australia from U.S.A. via KH6, JA, VS6 and DU. While in U.S.A. he hopes to be active under a VE7 licence, portable W0.

—Ray Jones, VK3RJ, Manager.

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FEDERAL AWARDS

V.H.F.C.C.: No. 22 has been issued to VK-7LZ for 144 Mc.

W.A.S. 50 Mc.: No. 36 has been issued to VK5AX and No. 37 to VK5ZBR with the addition of N.Z.

D.X.C.C.: As from 1/7/62 former Trust Territory of Ruanda-Urundi (9U5) has been divided into two new nations Rwanda and Burundi. These will be given new and separate listings for D.X.C.C. Credit will continue to be given for Ruanda-Urundi confirmations of contacts up to 30/6/62 under the old listing.

—Alf Kissick, VK3KB, Awards Offier.

NEW SOUTH WALES

HUNTER BRANCH

The June meeting of the Branch was a most successful visit to NBN studios. Thirty-five members, associates and visitors were given a most comprehensive and interesting tour of the studios and equipment by Ken 2KG. A really good feature of the evening was the discussion session which prefaced the actual viewing. During this time Ken described the complete organisation and equipment of the station and was able, as very few guides can, to answer all questions asked of him. The party then divided into two groups to be shown round by Ken and Rodney 2CN. Members were then fortunate in seeing both film and live presentations and the evening close down as well. In all, thanks to Ken and his staff, a most enjoyable and instructive evening.

Around the Branch this month once again we witness the big winter sleep, or so it seems, for activity is at an all time low. The ducktalkers have now firmly established themselves on the Monday night broadcast despite my comment about a.m. telephony in the last issue. Apparently it is easier for some members to copy this mode of transmission and progress is to be encouraged, but I find it impossible to set the rx and walk about the shack, for when I do, something drifts and I'm back turning knobs. Strange to say, WWV never moves at this QTH.

From Whitebridge a 2 mx signal is now radiating to far distant places and the man at the controls is Tony 2ZCT. I am told that he has had good reports from as far away as Sydney. The 288 rig is well on the way and may actually be in operation by the time these notes appear.

Things must be slack on the DX bands of late because Jim 2AHT has been heard working 80 mx on several occasions. The signal in this area has to be heard to be believed.

If you haven't already begun to blow the cobwebs out of the mobile or portable gear, then a start had better be made. All this is in preparation for the annual dinner and field day which will be held at the usual venue, Blackalls Park, during the last week-end in September. Watch the Bulletin and listen to 2WI for details, but get the gear ready just the same. What about some 160 mx gear for the car. It's really easy to get on this band and skip is a thing of the past. The usual car radio can be persuaded to operate on 1800 kc., so what about it you chaps?

As far as fixed station operation goes on the top band, things are at a low ebb in the Hunter Branch. Plenty of VK3s are audible and reports are that some have worked all States already. This is using high power, no doubt, but low power, a couple of watts will do, and a piece of wire will get you all the local contacts. Arrange a sked any time, I have a v.f.o.

Harry 2AFA is reputed to have not had a contact on any band for four months! This is a very bad thing and there is talk of a persuasion party being organised to get him going again. So, Harry, watch out or you'll be persuaded. Congrats. this month go out to Bill Munn, fellow chalk pusher, who has been notified of his pass in the A.O.C.P. exam. Bill is now flat out on the Morse and hopes to be able to have a go at the remainder of the quiz before long.

That being all the news, it remains only for me to remind you of the next meeting which will be held in the usual place, Newcastle University College, Tighes Hill, on 10th August, at 8 p.m. By listening to the Monday night broadcast you will be able to get all the details, but I believe that some films are to be shown. Bill Hall will be holding the usual social gathering at his well known hostelry on the fourth

SILENT KEY

It is with deep regret that we record the passing of:—

Ian Ginbey, VK6IG

Wednesday, that's 22nd, and all are invited. And one more reminder; don't forget the field day, 30th Sept., with the dinner on the previous night. See you. 73, 2AKX.

BLUE MOUNTAINS SECTION

The notes for the last two issues were missing for which I apologise, holidays, work and all that. All club meetings have been well attended. Denis 2AWW gave a very interesting lecture on test equipment and has plenty of gear to demonstrate. The boys had plenty of questions on "db" ratings, etc., and our thanks go to Denis.

The last meeting had the pleasure of listening to Sid 2SG's voice on tape, the tape being his transistor converter which included slides and held everybody's interest. Business over the past months has been normal, mostly taken up with club crystals for 2 mx—no comment.

Yours truly had an enjoyable holiday at South West Rocks, where I was joined by Noel Walker, Jack 2AAT, Stan 2GC and Roy 2KO, so a good time was had by all. The fish were good also, if you had silver bait. Noel is now planning holidays at the end of the year, so I'm convinced I am working for the wrong firm. Jack 2ADF has finally bought his car, Australia's own, which I am told is a working model and a good looker, so it should not be long before Jack will be the cause of some mobile QRM. Ken 2AVN is busy on the week-ends these days getting his new QTH under way.

Oscar has caused a lot of interest in the club and about four or five indicate that they have heard him—hi, hi. Denis 2AWW had a few tapes of his tracking methods and proved very interesting. Laurie 2ZJC has been very active also. Noel has been busy listening out for the Pacific rocket and was disappointed when the last one was a "fizzer". Bob 2CT has been active since he received his licence and has been heard and worked with excellent signal strength.

A visitor to our last meeting, a newcomer to the district, is Arie Bles, ex PA0FM, ex PK4DH, now living at Springwood and I believe is well up on sideband and has lots of nice equipment.

Coming events to hand: R.D. Contest and Scout Jamboree of the Air, will no doubt receive the excellent support of last year. Don't forget Oscar reports, no matter how late. Next meeting should be interesting—a buy, sell and swap night, all welcome. 73, 2ADA.

BOORAGUL HIGH SCHOOL RADIO CLUB

Four of our members have been notified of their success at the recent examination for the elementary certificate. They were Susan Brown, Ray Elkin, Bill Brown and Warwick Elliott. It is hoped that several more members will be on the list after the next exam. Because of his very good mark of 94 per cent., Ray was presented with a multimeter, donated by Mr. Meinsma, of Mayfield. Thanks to him for such a useful award.

Open day at the school this year will be on 10th August and we hope to be on the air as in previous years. The bands we will be using are 40 and 80 and it is hoped that as many school stations as are able will call in on the net. Please listen for 2ATZ and give a call if you hear us. Among other exhibits we will have a portable station in the field, most probably on the top band. 73, 2ATZ.

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VICTORIA

JULY GENERAL MEETING

The July meeting was held at the usual venue on the 4th to a somewhat smaller audience than was expected. Due to the late arrival of the President and Vice-President, the meeting was delayed. By general agreement, business matters were left and our speaker, Mr. Alec Little, proceeded with his talk on the transistorised equipment the University Physics Department use for finding their lost balloons. The tx runs about 100 mW. on 3.801 megs. to a half wave dipole. When they are very lucky the dipole will be caught in a tree. If things go normally the dipole will finish flat along the ground. If their luck is out, the antenna ends up a tangled mess of wire. Even so, recovery rate is highly satisfactory, only one balloon and tx has been lost, although the payload was returned to the University. Maybe, like the Southern Cloud, it will turn up in about 30 years.

After the lecture, Mr. Little demonstrated the equipment and surprised everybody with the sharpness of the loop-stick antenna. The receiving set-up comprises the loop-stick feeding an out-board r.f. amplifier, incorporating a sense antenna, thence into a commercial dual-wave transistor portable. All in all, a most interesting evening.

Next came business matters. Five new members were gathered to the fold, 3GI (ex-7GC), 3ZJI, 3ZIO, 3ZLT as full members, and R. F. Gerting as an associate. The Secretary reported on the success of Alf Chandler's appeal to the Minister against the Malvern Council's refusal to permit the erection of a 47 ft. tower. You will recall the Institute undertook this appeal on Alf's behalf.

There are a number of jobs to be done at the rooms and volunteers are needed. If you have a few hours to spare, please contact either the Secretary or Mrs. Bellairs.

W.I.C.E.N. is well under way, 110 cards having been returned. A major exercise is being planned for the 22nd and 23rd Sept. Details will be sent soon to those who returned cards.

Now that 3WI is back on the air, a broadcast committee, comprising 3OM, 3BX, 3ARZ and 3ZEL, has been formed. Items suitable for the broadcast should be sent to one of these people. 3OM will be found on 80 mx at 8.30 Friday nights to gather news from country members. 3ARZ will be on the air about 10 a.m. on Sundays, I believe, for last-minute news.

A tape recorder has been purchased for 3WI and arrangements made for a replay of the broadcast on Sunday evenings for the benefit of those lucky fellows who can stay in bed until lunch time on Sundays.

Slow Morse transmissions are being made by 3DQ at 8.30 p.m. on Sundays on 3.550 Mc. Council desires to publicise all slow Morse transmissions. If you know of any Amateur or commercial transmissions, audible in VK3, please send details of times and frequencies to the Secretary.

COUNCIL MEETING

July Council meeting was held on 10th, a very cold night to go out. Amongst the matters discussed was the request that Council support an application for Limited licensees to operate on 29 Mc. After long discussion, Council decided not to support the request. The allocation of Channel 0 was discussed, but as F.E. has already got this matter in hand, no action is being taken for the present.

The W.I.C.E.N. report submitted to the State Government Co-ordinator was examined. There will shortly be a conference with the Division's representatives when further details will be ironed out.

The work of operating 3WI during the broadcast has fallen on too few shoulders. It was decided to roster member of Council to act as engineer. This necessitated running a class after the meeting so everybody concerned would be familiar with switches, buttons, etc.

Federal Councillor tabled a copy of the syllabus prepared by VK2 for Youth Radio Clubs. Council is taking steps to start a similar movement in VK3. Ways and means of increasing interest in W.I.A. were discussed, but due to the lateness of the evening a special meeting was called one week hence to discuss this matter alone.

GENERAL

Saw an interesting comment in June "A.R." regarding the service on Council in VK2, compared with VK3. Possibly service in VK2 is more rigorous. In VK3 things are fairly easy. Apart from 14 or 15 meetings a year, about 9 or 10 general meetings a year, two or three nights a week working on W.I.C.E.N. matters, compiling notes for the mag., compiling news for the broadcast, acting as engineer for 3WI once or twice a month, shifting furniture, constructing equipment for 3WI, painting, cleaning up premises, etc., etc., etc., VK3 councillors have nothing to do. By the time you count in F.E., Publications Committee, Disposals Committee, etc., the activities of about 30 people are rather restricted. I can sympathise with 2YB, and express the hope that if and when he finds a way to organise a tribe of volunteers, he makes his information public.

W.I.A. N.S.W. DIVISION
HUNTER BRANCH

ELEVENTH ANNUAL

CONVENTION

will be held on

SATURDAY, 29th SEPT.

and

SUNDAY, 30th SEPT., 1962

Full details in Sept. "A.R." and the Bulletin.

For advance bookings contact Hon. Sec., G. Sutherland, 15 Marine Vw., Newcastle.

The VK3 secret, Bill, is that if the same group did not go back year after year, VK3 would be as dead as the Dodo. It looks as though, of our seven hundred members, at least 650 pay their subs. and consider their duty to the Institute done.

After all that, I'll probably be kicked off Council and sacked as Notes Scribbler, but if it produces any extra workers I'll be satisfied.

In lighter vein, a certain scribe periodically says nasty things about people who donate old chassis to young s.w.l's. Said scribe may be interested to know that these same s.w.l's. recently tried to borrow a ferrite core or rod from their benefactor. As he has never seen one, in fact, doesn't even know what it would be used for, donations of technical literature would be appreciated. He promises to find time to read it during his long service leave.

There being no space left, personal notes will be skipped this month.

MIDLAND ZONE

It is pleasing to see that since my last notes there has been an increase in activities in the zone. 3SV (Castlemaine) is keeping the ball rolling on 144 and 3.5 Mc. bands and the numbers participating in these hook-ups are: 3SV, 3DG, 3FO, 3APJ (on c.w.), 3ZK, 3ZLJ, 3ZIK, and 3ED is expected to be on by the time these notes go to press.

3AHA, 3ACN and 3FY find the time inconvenient so what about 9.30 a.m. Sunday mornings on 80 mx? Jim 3SV will be on at that time and some others, I hope. As for myself, 3ND, I have not yet been able to get on 80 mx due to other commitments, but expect me any time from now. I appear regularly on 40 each Sunday morning at 9.30 a.m., so any other zone members on 40 could look for me there. 3UR (Bendigo) works N.E. Zone. How come OM?

After the hook-up and broadcast, 3SV will be looking for 2 mx contacts, so go to it. A reminder, too, to W.I.C.E.N. members to get cracking on some gear and get some practice in procedure during the hook-up.

3LP's new QTH at Lancefield adds another one to our zone, so let's hear from you OM. Col 3FO is looking for contacts on 2 mx. Ian 3ZLJ having mod. troubles on 2, but should be OK by now. Don 3ZIK re-building 2 mx gear. Jim 3SV re-building 2 mx tx. Roy 3ND will be on 80 regularly on collection of AR7.

The next meeting of the zone will be held at Kyneton, the location of which will be determined by Peter 3APJ. The date, 17th August.

In the copy of the minutes sent out to members you will note suggestion as to venue of meetings and I would be happy to hear from members as to suggestion, and particularly as to who could attend such meetings so as to be able to finalise arrangements. This matter could be discussed on Sunday hook-up and in the interim 3SV will be able to hand the information to me, until I get on 80 mx. 73, 3ND.

SOUTH WESTERN ZONE

The South Western Zone Convention and Annual Meeting was held at Geelong on 9th and 10th June and a new group of office-bearers elected for the next twelve months. Brian 3XN was appointed publicity officer and the minor placings of President went to Dick 3ABK and Secretary to Don 3AKN. Whether notes will be more interesting or flow more freely as a result of this daring move is doubtful to say the least. Other business dealt with at the Convention included the adoption of a constitution ably drawn up on the spot by Michael 3ZEO, and the decision to apply for a licence for a zone station; Don 3AKN having been appointed station officer.

The car trial tx hunt organised by the Geelong boys was the highlight of the Sunday's operations, the honors being taken by David 3ADW, ably assisted by Michael 3ZEO and Michael 3ZCZ. Have to admit that the city chaps can do something better than the S.W. Zone. I couldn't even find a loop, let alone four tx!

John 3AGD, Kevin 3AKR, Tony 3WB, Don 3AKN and Brian 3XN all became t.v. stars recently whilst taking part in operation "Gunga Din" in the fire damaged areas of the Dandenong ranges with the Westmore Radio Group. Other important personalities of the group there were Hugh O'Rorke and Tom Kinnersley, both Associates. The Westmere group were the pioneers of Rural Fire Brigades' radio communications, and went to the Dandenongs to see for themselves the problems up there and to see whether they could help with the communications problem in the hills. Anyway, the trip was certainly very instructive to the plainsmen, and apparently started some new thoughts amongst those of the hills. A good time was had by all after it was found that an empty can would top load a whip, and the only way to get cans was to empty them, much to the disgust of one resident.

Noticed a number of zone members in at the christening of the new band on 1st July, this being as it should as the band is not really new to us, tests having been conducted by the S.W. Zone W.I.C.E.N. on 1845 kc. last year. Kevin 3AKR was coming in like an A.B.C. announcer with a mighty signal, using the roof of the hayshed for an antenna. Don 3AKN, Jim 3ABT also John 3AMC. 3XN was there too of course (got to blow my own trumpet, nobody else will.) Most managed to work Ian 6CL the first evening, so the band looks like being an interesting one. Observations here are that the higher noise level and the broad Loran channel at the high end of the band will make receiver selectivity as imperative for 160 mx as for the DX bands.

In conclusion, a plaintive cry for zone members to send in news to me, otherwise the same old calls are going to get mentioned over and over again and that would never do. The gentlemen concerned will get swelled heads and it will need somebody stamping up and down the corridor at 0200 hrs. complaining about spilled pot plants to shrink them back to size! 73, 3XN.

EASTERN ZONE

Bert 3BB and George 3ZCG both were very busy during June tracking Oscar II. around the clock. George was able to take some good Doppler measurements, his equipment being calibrated by Bill 3AMH. These graphs and readings when computed with Bill's (3ABP of Melbourne) measurements, gave results showing the approx. location and height above the earth of Oscar II.

Quite a lot of crossband working (80-2 mx) took place with very good results, also there was a good write up of Project Oscar in the Morwell newspaper. Other stations in the zone who participated were Jim 3ZBV, Peter 3ZDP and Alan 3ZNB. The zone is now looking forward for the launching of Oscar III.

In last month's notes, Alan's call sign was incorrect, should have been 3AON. Alan did say there would be another 2 mx Z station also working from Mt. Tassie in the near future.

The Morwell High School, 3ANL, held their monthly hook-up on 12th July at 1930 hrs. on 80 mx band. The group welcomes any other school who would like to join in.

Norm Chapman (3ANC) hopes to be back on the air very shortly again. The Sunday morning Eastern Zone hook-up at 0930 hrs. on 3650 kc. could be far better supported. The usual stations on are Gordon 3TH, Ron 3PR, Bert 3BB and Grahame 3QZ (before he left for England). What about it, boys? Where are the Warragul chaps? 73, 3ZCG.

NORTH EASTERN ZONE

3ACD has been occupied dismantling a windmill tower and transferring it to his home address; understand Cardy intends to put a quad on it. 3AUL has been tinkering with some mobile gear, but I have not heard if it is working yet. 3IG has nutted out circuits and layouts for mobile gear to be built after P.M.G. Senior Techs. exams are over. This is good news, 'ceptin' he does not have anything but the landlady's wheelbarrow in which to mount it! Bruce did make half a start on c.w. the other day. He transmitted on phone and received on c.w. His 348 is having a rest now that there is a type 19 going.

3AYD put up a ZL Special a few weeks ago and has since made several 15 mx contacts on it. Alan is like the cat which ate the fat budgie over his DX to Canada and U.S.A. Certainly great to hear of such joy. I understand that he has offered to help out with slow Morse transmissions when required; credit to the zone. 3ASF currently in hospital and looks like being there a total of four weeks. A couple of doors down, on the evening I visited, was 3ACK in for a week for a quick repair job. 3AAQ lost to golf; 3AGG just plain lost.

3UW has been trying out a sideband outfit but at the time of going to press, was not strongly praising the mode. He will give his considered opinion after more time and use. 3AWT has been trying out c.w. with good results. In between times he has erected a 2 element aerial; not sure whether it's for 15 or 10 mx, however it is mounted on a 40 ft. tower, adjustable to 50 ft.

Arthur, our W.I.C.E.N. co-ord., reports that 12 zone members have offered to give assistance to the network. This is approx. 25 per cent. of all licensees in the zone, 33 per cent. of financial members, and 66 per cent. of members I know are active. These are only approx. figures.

What have I been doing? Scouting, golfing, and re-building. Have a safe month. 73, 3ASY.

MELBOURNE UNIVERSITY RADIO CLUB

After a period of relative quiescence the club is again active and should be on 7 Mc. between 1 and 2 p.m. most week days. The club wishes to thank Mike 3AVV for the work he has done in getting the club transmitter on the air. The Annual General Meeting was held recently with some 20 members present, including several new members, many of them as yet without call signs. The following were elected office-bearers for the next 12 months: Ian 3ZHR, Pres.; Jim Boyle, V.P.; Mike 3ZMC, Sec.; Peter 3ZIL, Treas. It is hoped the club will enter the Remembrance Day Contest again this year and compile a big score. 73, 3ZHR.

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QUEENSLAND

FREQUENCY MOVE

The Queensland Division's general meeting, held in Brisbane on June 22, carried a motion which might result in the limited licensees being able to use the 29 to 29.7 Mc. band. The motion, proposed by Vince 4VJ and seconded by Bob 4RB, was to the effect that the P.M.G. be approached about the possibility of Z licensees using a portion of the 28 to 29.7 Mc. allocation because the 50 to 52 Mc. allocation has been taken for Channel 0 t.v. There were no dissenters.

The meeting drew a good number of members. Pat 4KB was in the chair and Jim 4HZ, from Gympie, managed to stay over on his way home. Apologies were received from Jack 4JF and Frank 4FN.

The second main item of business was a discussion on the election of a Federal councillor. After some discussion, the Chairman pointed out that the meeting should give the Council a positive direction as to how Federal councillor should be elected. A member then moved: "That the Council abide by the terms of the official Divisional Constitution of 1951 and elect the Federal councillor from Council." This was carried with four dissenters.

The meeting accepted four new members—A. J. Fuller, 4ZBF; I. R. Brown, 4IB; and associates, N. E. Fenton and D. W. Asmussen.

Mr. Walker, of the Southern Electric Authority Communications Division, lectured on Transistorised Power Supplies, and the subject naturally lent itself to an attentive and interested audience. He illustrated his lecture with diagrams and some of the more interesting components of these units. The lecture will be taped for the Institute lecture library.

COUNCIL MEETING

Pat 4KB also chaired the Divisional Council meeting, held on June 14. Among the matters decided were the appointment of Kev 4ZR to fill the vacancy on Council (he's now Asst. Sec.), Alf 4OL as 4WI Station Manager, and Bill Jehn, of Golebys Chambers, Brisbane St., Ipswich, as Short Wave Listeners' Group Registrar. Stewart 4LA was co-opted to be Minute Secretary and News Officer.

Council also appointed some of its members to form a sub-committee to review the Divisional Constitution, and the names of 4LT and 4PJ be put forward for membership of the Advisory Committee.

More informal Divisional doings involve the Central Qld. and Wide Bay and Burnett Branches. Central Qld. first used its call sign 4IR on June 9 and this has been heard (despite rotten conditions) in the hook-ups on Sat. afternoons with the W.B. & B. boys with 4WQ. Needless to say that when the 7 Mc. band improves, things will be a little hotter as the two groups organise a convention. Word is that it will be held in conjunction with the Bundaberg Sugar Festival at the resort of Bargara, probably on Oct. 6 and 7. Further words will no doubt spread quickly around the bands.

CONTEST PLEA

Queensland members this year are asked to make a very special effort in the R.D. Contest. In past years, activity in VK4 during the Contest has been quite high. However, to send in the logs with just a dozen or so contacts appears to have been too hard. There should still be a couple of weeks by the time you receive this to organise the week-end well.

Talking of activity, enthusiasm appears almost negligible to help Al 4SS organise a slow Morse session on 80 mx. Surely there are enough members around who can pound a key for a half hour perhaps one night a fortnight. The more in will make the job easier, so contact Al direct if you can help.

Now is the time to move on what is likely to be the best Jamboree of the Air ever, at least in VK4 land. Quite a number of members have offered their services to join up with local Boy Scout groups, but many more could come in, we feel sure. Last year, the Jamboree brought back on to the air many call signs which had not been around for quite some time. Remember, where the station is to be set up is entirely up to you. If you feel

that you would like to operate at the local scout hall using perhaps a mast erected specially by the Scouts, well and good. If you want to operate from your home QTH, that's OK too and interested Scouts will only be too willing to visit you. Noel at 4OS is organiser this year and he is frequently on the air on 7 Mc. on Sundays if you'd like to contact him and tell him you'll be in it.

On the sick list in recent weeks have been Les 4EH, Bill 4WX, Al 4AW and Gordon 4GH. Les, Al and Gordon all had spells in hospital, but latest reports say they are well on the mend again. On the air we hear that Stan 4SA is still not up to putting his cheery voice back into his tx.

These cold mornings are really meant for staying in bed, but the Kookaburra group seem to think it's the best time for working. Conditions have forced them to use 3.5 Mc. lately starting about 6.30 a.m. Then the Kingfishers come on at 9 a.m. and have been upset by conditions, not being able to work a couple of miles yet hearing stations at S9 from the south and north. Conditions have also upset the operation of 4WI on Sunday mornings. A suggestion, however, for those not getting the long skip. Try listening on 14 megs., the other transmitted frequency, and things might come good for a while. However, if you don't get through, take some time off to jot down some news and post it to the Brisbane box for it is rare to receive anything this way from chaps in the country who so dominate the hook-up. Better still, write the news before you come on the air so I don't miss out. Cheers, 73, Don.

SOUTH COAST ZONE

Apologies for scarcity of notes this month, not on account of hibernating or preparing for the influx of tourists. The fact is that there has been little doing in this quarter, other than a little re-building, still incomplete. Would appreciate an offsider as Stan 4ST has in Charlie. While Stan fishes for the big 'uns, Charlie fishes in the junk box and has 4ST on the air in readiness for the Jamboree of the Air.

The grapevine has it that Ken 4ZGX is preparing to take the c.w. portion of the exam. We wish you success, Ken, and hope that stress of business will not delay your obtaining the full ticket.

Cres 4ZAO has become tired of doing nothing and has gone into business. We hope the venture will be very successful and lead to more overseas equipment, if you have room for it, going on the benches.

Regret to hear that Les 4EH has been in hospital for some time. Hope by now, Les, you have fully recovered. Bruce 3IG informs me that your friends down south, round Shepparton, have been inquiring about you and he has passed on all the news he has received of you. 73, 4WS.

CAIRNS

Frank 2ACQ/portable arrived in town during the month. I cannot skite very much about our Sunshine State, as it rained most of the time that he was here. Frank has the back of his station saloon filled with radio gear, also has a caravan which he pulls along behind the car and has found room for the XYL also. She claims her job is to get out of bed during the night to close the hatch in the roof to stop the rain from coming in. Apart from the rain and the lack of good signals on 40 mx, I think that they both enjoyed themselves very much, saw a lot of the local beauty spots, and not so beautiful spots, e.g. Ham shacks, etc.

Claude 4ZY, I believe, is now eating well again as his XYL is now out of hospital and back home again. Not too strong on the old pins yet, but is coming along quite well. Very pleased to hear that Claude, might hear you on the air now.

4TW generates his own power, the traitor, from a small generator which is pushed along with a diesel motor. Apparently it is getting like my good friend (?) in VK5 land, worn out. You should hear the things that Col calls this engine, but you have heard nothing until the night that he broke the crank-shaft in his main diesel which drives his timber mill. Heard Col tonight, so everything must be OK again as he was putting a mighty signal out. 73, 4ZW.

TOWNSVILLE AND DISTRICT

Consensus is that the bands must get worse before they get better; from observations lately it is hard to realise that conditions could deteriorate any further. But such will be the case, so the newcomers to the band must often wonder if it was worth the long tedious hours of study. But every cloud has a silver lining and won't be long before conditions will improve and then one will realise that the midnight oil was well spent.

The last monthly meeting of the Burdekin District Radio Club was honored by visitors from the local club, namely 4PS, 4MF, 4PF, 4WH and one other whose name escapes me. According to 4UX, the meeting was one of the best as 17 of the locals turned up to meet the visitors and listen to the two lectures by Joe 4OJ on Class C Amplifiers, while Claude 4UX expounded on his pet subject, Modulation Systems with special emphasis on the clamp tube type.

The classes at Ayr are promising to the local scouts as three of the leaders are doing the course and that will mean the three troops will have their own club stations under the guidance of their leader in the future. So the Scout Jamboree on the Air in the future will have some following in the north.

The T.A.R.C. has apparently pulled up its socks in an endeavour to make things interesting and attract more members by publishing a monthly bulletin called "CQ Local" and edited by Bill 4ZBE, who, I believe, is trying hard to get the boys on 144 Mc. and soon hopes to get a class started with a view to getting more Z licensees in the district. Speaking of v.h.f., Ken 4KT still trying to hear the Z boys in Ingham on 144. Heard Ken in QSO with Vern 4LK the other Sunday on 7 Mc. and zeroed in on s.s.b. and managed a QSO with them. Vern not on s.s.b. as my spies previously reported.

As the R.D. Contest is very near, Claude 4UX guarantees to out-perform any other VK4 this year. So what about it, boys? Don't let him crow as I can imagine him saying, "I told you so" and I'll have to eat humble pie, because I maintain his gear is just so, so. Him and his quad and piece of wet string! 73, 4RW.

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SOUTH AUSTRALIA

The monthly general meeting of the Division which can lay claim to its fair share of sunshine, to wit, VK5, was held to a capacity house, in fact it was breathing room only, and took the form of a buy-and-sell night, although in this case it was purely sell. Only the gear of the late Doc 5MD was disposed of, and as there was plenty of that available, almost the whole night was given up to it. The Chairman, John 5JC, unfortunately, was stricken with an attack of boils and could not make it at the last minute, and Phil the photographer (5NN) stepped into the breach and, if I might be permitted to say so, excelled himself in the position of Chairman and gave us all a taste of what we can expect when he takes over the job in the future.

One or two items of business were transacted before the gear was displayed, the most important being the proposed purchase of an electric Gestetener to replace the hand job in use at the present, with its attendant hard work that is imposed upon it by the almost monthly issue of a VK5 journal. All present apparently realised the need for a modern approach to the matter and when it was put to the vote, the members were solid behind it. The matter will go before the Trustees for their approval and whilst I am only guessing, I feel sure that they will OK the purchase, because they see the sense behind the move and fully appreciate the position.

At this point the gear came up for auction, and after an enjoyable time by all, was finally disposed of to everybody's satisfaction. George 5RX then gave out the QSL cards and the looks of astonishment and disbelief on the faces of a good many present when that debonair and modest athletic type, Warwick 5PS, was handed a card from a JA for some slick key tapping on 21 Mc. was worth a guinea a box. Har-har-ho-ho; so I am never on the air hey? Try that on your grand piano! (Have you found the pirate yet?—Ed.)

The main business of the night then came on, to wit, the question as to whether or not students under 21 years (full-time students) would be subsidised by the Division in its student classes to enable them to get their licences. Arguments for and against were heard and then Clive 5PE moved that because of the lateness of the hour, plus the fact that the discussion was now only going around in circles, that the matter be put to the vote. This was done and the motion was defeated by a fairly large majority, although I noticed that quite a few members did not vote, for reasons best known to themselves.

Phil 5NN, at this point, drew attention to the fact that there was still the question of the "Letter" to be discussed, and without waiting for any member to get to his feet, he gave a demonstration of diplomacy and tolerance toward both sides, which silenced the matter for good and all, or so everybody present hoped. Once again it has been proved that with the lapse of a month between meetings, and a consequent mellowing of both parties' outlook, that more can be achieved by a waiting policy than all the rapid-fire discussions, which in most cases are only egged on by one or two interested in personal ambitions rather than by Divisional ambitions. However, I must add that the "Letter" has achieved its intention, as was evidenced throughout the meeting, and this fact will be greeted with cheers by all who are Division-minded.

Frank 5MZ has at last taken delivery of the new tx built by Carl 5SS. Frank was so excited about it all that he started to shave with toothpaste and clean his teeth with hair oil! It won't seem the same Frank, no Type 3, oh dear, oh dear, like milk and tea, hot dogs and sauce, Pansy and modesty, and s.s.b. and—I am frightened to say it, Frank and his Type 3 went together. Vale old friend.

I have discovered the fact, despite all the funny har-hars, that I am eligible for the Worked Elizabeth Award. I have made application to the right source and, again despite the fact that I was informed tersely that the cards would have to be checked to see if perhaps someone was using my call, I am, with great pleasure, putting my thumb to my nose in a gesture of victory.

Fred 5FH was noticed at the meeting and even purchased a Z match. When I accidentally picked it up and started to walk off with it, he said, in tones dripping with acid, "You could not get away with it, big as it is, you protruded from it in all directions." How low can one get?

Comps 5EF, of s.s.b. fame, or is it infamy, is reported as being confined to his slumber couch. His brother tells me that it was only the 'flu, although for a couple of days Comps was far from well. So much so, I am told, that even my gibes and funny asides on s.s.b. failed to raise even a grin or a retort. He must have been off colour!

Bram 5AB was at the meeting, and like a good many of us, felt decidedly down in the mouth as Doc's gear went to the highest bidder. Incidentally, he mentioned to me that if Joe 5JO liked to get in touch with him he might pass on to him some of his old fashioned a.m. gear for the use of the Brompton Church Boys' Club (Joe's pet baby). I have promised to let Joe know, despite the wicked look in Bram's eyes as he distinctly said, "I have no use for that old fashioned a.m." He repeated it, just to make sure that it registered. It did! Quack-quack, blurp-blurp, in fact make it double in spades!

Alan Jarman, a met. officer from Forrest in VK6, has been transferred to Alice Springs and has been issued with the call of 8CP and is probably on the air by now. This now means that there are four active VK8s from Alice. Ralph 8NK is still pounding the key exclusively on 14 Mc., with satisfactorily results to all concerned. Frank 8AE is mainly interested in the technical side of our hobby, plus the commercial side as well, and as he corresponds with my Chief at times I must watch my step, dot my i's, and look after my pees and kews. Oh the things I say!!

Les 5UX is working all and sundry throughout the world on 7 Mc. via the key, and has also been very successful on 14 and 21 Mc. He also says that the re-broadcast of 5WI on 14 Mc. by Tom 5AQ comes through f.b. There you are Tom, you are famous at last. Three hearty quack-quacks!

Associate member Jack Parkin, now well on his way toward good health after two visits to the hospital, tells me that Luke 5LL, Frank 5MZ, Carl 5SS and the "Admiral" 5ZAH made his sojourn in hospital much more than usually bearable by their visits to him, by their many little acts of kindness, but mainly by the many pleasant hours they passed for him by their rag-chews among themselves at the sick bed. Nice work fellows, and once again I say, if it is true that one only gets back from our hobby as much as one puts into it, then you

NEW MULLARD TRANSMITTING VALVES


QQZ03-20


QQZ03-10

MULLARD introduce seven additions to their extensive range of transmitting valves. These new developments, for use in television transmission, mobile radio communications and microwave links, combine the advantages of the latest manufacturing techniques together with long-term experience gained in operational service.

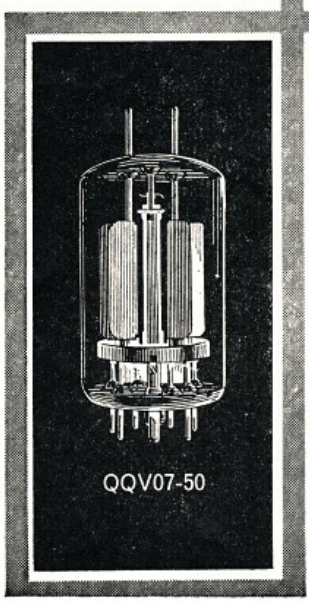
TELEVISION TRANSMISSION

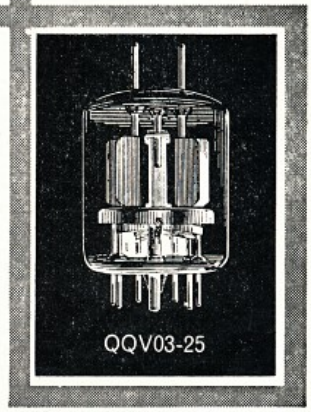
Coaxial UHF power tetrode QY3-1000A, with ceramic construction, for use as a Class B or Class C amplifier at frequencies up to 1 Gc/s. As an amplifier for television service the QY3-1000A is capable of providing an output power of 1.28 kW at a frequency of 900 Mc/s and 1.76 kW at 600 Mc/s.

MOBILE RADIO

Four new quick heating versions of existing tetrode transmitting valves. The use of these valves, the QQZ03-10, QQZ03-20, the QQZ06-40 and the QZ06-20, will permit considerable economy in transmitter standby power consumption and will also effect a reduction of chassis ambient temperature. All four valves deliver more than 70% of maximum output power within one second of switching on.

	Power Output at Full Ratings	*Max. Operating Frequency*
	(W)	(Mc/s)	(Mc/s)
QQZ03-10	13	200	225
QQZ03-20	45	200	500
QQZ06-40	85	200	500
QZ06-20	70	60	175


QQV07-50


QQV03-25

COMMUNICATIONS

Two new double tetrodes, QQV07-50 and QQV03-25, meet the demand for increased anode dissipation and can be incorporated in equipments requiring output powers of 70 W and 35 W respectively, including equipment designed for the QQV03-20A and QQV06-40A.

MICROWAVE LINKS

EC158 disc seal SHF triode for microwave link communication equipment capable of 5 W output power at 4 Gc/s (50 Mc/s bandwidth at —0.1 dB). The unique performance of this most advanced valve is made possible by the incorporation of a special dispenser cathode.

MULLARD AUSTRALIA PTY. LTD., 35-43 CLARENCE ST., SYDNEY, 29 2006 AND 123-129 VICTORIA PDE., COLLINGWOOD, N.5, VICTORIA 41 6644
ASSOCIATED WITH MULLARD LIMITED LONDON

Mullard
PROFESSIONAL AND INDUSTRIAL VALVE DIVISION

MT118

chaps certainly have built up an equity in the game.

Talking about hospitals and sickness, reminds me that the Division has a Type 3 Mark II. available for any member that might be confined to the sickbed, but still capable of a little chat on the air. It is years since it was used and probably because few know about it. Anybody sick?

Once again I have been taken to task for daring to mention an Amateur in these notes who is not a member of the W.I.A. Once again I have openly stated that I don't give a hoot whether an Amateur is a member of the W.I.A. or not. Naturally I qualify that statement by saying that I cannot understand how short-sighted anyone can be as to not belonging to the W.I.A., but everybody is entitled to their own opinion and as far as I am concerned, if they are an Amateur and they deserve a mention in the Divisional notes, then they get it.

All of which is a lead-up to a story heard this week about a fictitious Radio Amateur who was told by his doctor that his days were numbered, and immediately started to put his house in order. His last request to his XYL was that she ask eight members of the W.I.A. to act as pall-bearers on the fateful day. Somewhat amazed, his XYL said, "But dear, you have never had anything to do with the W.I.A. in all the years that you have been an Amateur, so why this request now?" "Well," the doomed man replied, "The W.I.A. has carried me on its shoulders for all these years, so it might as well continue the job to the end." Get the message?

Met Les 5NJ at the meeting this month and commented to him that I had heard him mobile on 7 Mc. several times with a signal that had to be heard to be believed. He told me that he has never had such fun with Amateur Radio as he has had since going mobile, especially in view of the flea-power, and his greatest thrill came recently when parked in a city street he called CQ on 7 Mc., and back came a ZL for an f.b. contact on both sides.

A big load of disposals gear arrived from Santa Claus and so big and varied was it that a special meeting had to be called to get rid of it in record time before shipment number two arrived. Before starting time, the "no seating available" sign was up, and when the Chairman, John 5JC declared the meeting open, the usual buy and sell audience had squeezed their way inside. VK5 have never fared very well in the disposal set-up and we have often read with envy of the gear which has at times been available to the other Divisions, and we have become resigned to the fact that we would always "dip out". However, it was worth waiting for, both in the quality and the quantity available, and the members showed their appreciation of this fact by buying to the last bolt and nut. The entire evening, although it started off as one of the best disorganised confusions that I have ever seen, turned out to be the best night's entertainment ever held by the Division.

The sincere thanks of all present must go to the Council members and the Disposals Committee, without whose superhuman effort the night would not have been possible. The two gentlemen, and I say that with some reservation, to whom the bulk of the organising fell were John 5JC and Brian 5CA, and as one who knows the amount of work that it entailed, I can truthfully say that the Division is indebted to these two. Of course, as auctioneer and general entertainer, I did my share toward the success of the evening, but my modesty will not let me comment on this, and therefore it must remain a secret. By the way, they tell me that the next hand-out will be bigger and better, so stick around and don't go away, you ain't seen anything yet!

John 5KX is the latest to join the ranks of the Grandfathers, and he is tickled pink. He gave me all the necessary publicity on the matter, and became quite starry-eyed, and as one Grandfather to another, we tried to outboast the other. Without being accused of bias, I think I just got my nose in front at the end. I know, I know, I wasn't behind the door when noses were handed out. Gercha!

Luke 5LL had a little trouble with his 288 Mc. tx, and like the rest of us, ignored the fundamentals and went looking for something real big in trouble. Eventually, to the intense amusement of all concerned, he discovered that he had forgotten to connect up the h.t. He is managing to live it down, but only just!

Joe 5RC has taken delivery of a new Collins rx and is in the seventh heaven. The "Admiral" 5ZAH, at present based at the Klemzig dockyard, has opened another branch of the School of Technology. Woe betide any youth who shows the slightest interest in radio. Before he knows where he is, the "Admiral" has shanghaied him aboard, and another prospective Amateur is in the making. Nice work, pity there were not a few more like him.

OBITUARY

IAN GINBEY, VK6IG

With much regret we have to advise of the sudden passing of Ian Ginbey, VK6IG, on 10th June last.

Ian was one who regularly came on the air to work mostly VK stations and fitted radio as a hobby into his everyday occupation. Always ready to assist a new comer and well thought of by many well known to him. Amateur Radio in VK6 land has no doubt lost a real Ham.

Our sympathy goes out to his wife and family in their loss.

Frank 5FJ noticed at the meeting and rumour has it that he is making a comeback after a long session of inactivity. Good to see you, Frank. Brian 5ZBI, of Maitland, has again wangled himself into another P.M.G. city class of instruction, and was heard debating the workings of the G.P.O. clock tower, with the "Admiral".

I close this month's notes with the statement that due to a balancing of the budget, the intricate details of which are known only to my creditors, I am now the proud owner of a new Holden. The gears are going out of their way to trick me. My last car was a Morris Oxford, and at the moment I am never sure whether I am going backwards, forwards, sideways, or up and down. However, I am told by a well known authority on car driving, who at times calls me Petals, and has warned me about the danger of playing with those rough VK4 boys, that the first twenty years are the hardest, which cheered me up immensely. Oh well, let's go—(You to PanSy) 5PS de 73—Oh dear, oh gear, oh dear!!

ELIZABETH AMATEUR RADIO CLUB

Both 5QL and 5TM have made several QSOs on the new 1.8 Mc. band. We have been approached to man 5LZ at a Hobbies Exhibition in August and, of course, we have the Elizabeth Birthday Celebrations coming up again in November. 5FY is painting his new beam. 5EU has been slumming it on eighty. 5CV having trouble getting a decent antenna going for eighty. There was a humiliatingly large turn-up at 5NO's place to help tear down the beam and tower. 5EJ still on 20 metre c.w.

Morse Code sessions are sent from 5LZ at 2000 E.A.S.T. on 3504 kc. on Wednesdays. Operators so far have been 5NQ or 5FY.

Welcome to 5AW, who has taken up residence in Elizabeth. 5GV still practising with his elbug. 5ZC seems to work all the rare DX that raises its ugly head. 5RC joins in sometimes with the club net on 40 at 11 a.m. on Sundays. 5DY and Tony Strong now playing with a zero bias triode linear. 5HA hopes to make a comeback for the R.D. Contest. 5ZMK and 5ZBR got a mention in "QST" last month. 5LZ has almost enough QSLs for a DXCC application.

Club meetings are held on the first Saturday evening of the month at the Elizabeth South School—all welcome.

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WESTERN AUSTRALIA

As mentioned last month, this Division has obtained a transmitter of "adequate" power output rating. The inverted commas are used in the same sense as the makers of the Rolls Royce car use when advertising—sorry—telling the public about their product. Under the heading of horsepower—adequate!

It was also mentioned last month that the lecture for June would be given by Ralph 6ZAD, who has been appointed "Keeper of the Beast," i.e. Technical Officer. During the lecture it became quite obvious that the complexity of operation behind the act of pushing the "on' button was slightly different from the ordinary Ham tx. Good show, Ralph!

The Division has now been advised officially that Sir Charles Gardner, Governor of Western Australia, would be pleased to perform the opening ceremony for the R.D. Contest for 1962. It is intended to pre-record the opening ceremony and distribute copies to the other States, as has been the practice over the past three or four years.

This reminds me, don't forget the R.D. Contest, by the time you read this it will only be a matter of days away. So, a special effort this year, you chaps, and help W.A. retain the trophy. Read up on the rules, every station counts that has five or more valid contacts. Log sheets will have been forwarded with the Bulletin. Anybody wanting more should contact Jim 6RU.

Our worthy President, Ron VK6KW, will depart this State for nine weeks on 25th August for Singapore and Japan. At the time of writing, Ron says he feels like a pin cushion at the moment from all the needles which have been stuck into him. And from the usual passport photograph, Ron feels if he doesn't get out of the State pretty quick, the Police Dept. will slap a number on him and toss him into Fremantle. Oh! Ron is taking his XYL with him too! Nearly forgot. Best of luck to you both.

Now that 160 mx is open, some activity is already reported and I have heard that Ian 6CL had an f.b. QSO with two VK3s about the first of July. Other bands are varying, with 80 mx OK early in July, but 20, 15, and 40 very patchy.

With the Goldfields area in the news and on t.v. lately, with Dan Farson doing his version of the slag dumps and the Farrell's local version showing that trees actually grow there, it is interesting to note that Bill 6DX has been experimenting with a Type A Mk. III. portable in his caravan. Bill has done the trip from Kal. to Perth and back and I understand the Type A works OK. Good work, Bill, should be more of these mobile units about when the W.I.C.E.N. is organised.

I have heard, too, that a brace of Z boys have claimed the full ticket and should be making good use of it for the R.D. Contest. Peter, ex 6ZDR, has now taken the call 6VR, and the other is Chas, ex 6ZCE, who has taken 6LK. Congrats. to both of you.

It seems there has been another call taken out recently, too, 6RL is the W.A. call which has been taken out by an ex KH6 operator. Has been heard on 20 and 15 with a Valiant tx. Welcome, OM, hope to see you about.

The single sideband monkey chatter has grabbed another victim in the shape of Graeme 6GR at Kondinin. Has been active of late on the s.s.b. The way everybody is going to s.s.b. makes me wonder if there will be any a.m. stations left at all in the not too distant future.

Have just heard that there is another foreigner to these parts, John 6CE, recently out from G land, and is making himself heard on 160 mx band. John, of course, would be used to 160 mx, so may be able to hand a few hints out. Welcome to the State anyway, John.

Wal 6AG, our worthy broadcast officer, has not tackled 160 yet, but hopes to soon. Be careful, Wal, there won't be **anybody** on 80!

Smoke signals have been seen from the far nor' west. These are believed to emanate from Cec 6KK, who is at present at Kuri Bay, out of Broome. Cec has been training the oysters up there to make with the pearls. Says it's a fine place for a single man to spend 12 months' holiday—and be paid for it! A letter from 6KK will probably be in the August Bulletin.

Enquiries are still proceeding about a meeting room for the Division, close to the city of Perth, and we hope to have something definite soon. A room of our own would mean having a place for 6WI; a convenient rest place for country lads when they come to town; a place to have a library, provision for Morse code classes, etc. I had better stop before I get carried away!

Once again, don't forget the R.D. Contest. Be in it for honour of those Hams who made the supreme sacrifice. 73, 6LS.

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TASMANIA

The new frequency allocations which have come into force have made very little difference to Amateur activity in this Division. I did hear some mainland stations on 160 mx coming through at good strength on the first evening of that band's allocation. Jack 7JB is considering the project of building up transistorised portable gear for this band as are one or two others. What can you do in the same line?

The A.O.C.P. Class in the South got under way on 10th July with Terry 7CT as master of ceremonies. A class in excess of 10 should produce a crop of new licences this time next year.

Harold 7MZ has been removed from Winyard to Hobart, so we can expect to see much more of him in the South. It is also likely that I shall have a local to talk to as well when the DX bands are out. Geoff 7ZAS has been out of the State on holidays, and the grape vine has it that he did over Sydney and Melbourne with his young son Ian.

I have noticed regular interference to the various Divisional official Sunday morning broadcasts over several weeks and I was even more surprised to find two VK7s QRMing VK-5WI just recently. If we offend in this regard, we can hardly expect other States to do better than us, so chaps, leave 7146 kc. and the lower sideband clear of interference in the interests of our hobby.

Snowy 7CH is still collecting QSL cards for inclusion on 7WI's card panel. Mine is missing, but that will be remedied; is yours there? A few of the old-timers are missing, so if you could help fill in the gaps, your help would be much appreciated.

At the August Divisional meeting, the club-room fund raising committee will be conducting an auction of donated gear. Rummage through your junk box and give what you can for sale to swell the fund for our new club-rooms, every little thing will help. Scrap metal will also help the fund. The July meeting heard an edited tape on v.h.f. communications by Ed WIHDQ, followed by a contribution edited by Reg 7ZAO. All members were very much impressed by this most absorbing history. We realise all the more what a great field of endeavour lies awaiting investigation in this frequency region.

There are two projects under consideration at present. One is a fund raising venture for our new clubrooms, which we hope will take place about the end of Sept., taking the form of a convivial get-together with adequate additions to ensure the most pleasant running of the evening. The other project under consideration is a Hamfest about the midpoint from the three centres of Amateur population. You will be hearing more about this project in the months to come. 73, 7ZZ.

NORTH WESTERN ZONE

I have some heartwarming news this month. 7MS has closed the last tin crack in his sealed box and the rig is now 100 per cent. t.v.i. proof. David goes on the air while the family watch the t.v. Must see David and get some clues. 7XL has inserted 50 kc. i.f's. into his rx and there are only sidebands left. Mighty selective things, George. Last night our monthly social meeting was held and once again a very poor attendance. What is wrong? The same old faces again. Take warning slackers, things may be made easier for you shortly—there won't be any meetings.

Anyhow, those present had an enjoyable evening, several present contributing short informal talks on a variety of subjects, including the G5RV, t.v.i. proofing, and maths. to the tenth power or something.

Sid gave a demonstration with an electronic wheel balancing device. I feel we all finished a bit off balance.

There was some talk of the R.D. Contest and David will probably launch his offensive with a foot pedal and a systemic accelerator. So once again it's coats and slippers off and on with the offensive. Have heard little activity during the month and what is left of our bands has not been greatly disturbed. We are having great difficulty with the Sunday morning broadcast from Hobart and were it not for the 80 mx relay we would be in the dark. Thanks, chaps, and keep on with the good work. 73, 7MX.

NORTHERN ZONE

The June meeting of this zone was held at the home of Peter 7PF and judging by the large attendance, our office-bearers will soon have to start considering, if they are not already doing so, the procuring of a hall or large room in which to hold our meetings because if our present rate of growth is maintained it will soon be impossible to hold meetings in individual homes, pleasant and successful though this method has been.

Lecturer for the month was Mr. Alf Cook, a lecturer at the Launceston Technical College and Alf gave a very information and instructive lecture on the means and methods of judging the performance of a communication receiver.

7PF also brought members up to date on the behaviour of Oscar II.

A tape recording of 12 mystery voices was played with a prize given to the member who correctly named the most voices. It appears as though 7BQ and 7PF do the most eavesdropping.

On the air activity by zone members is very limited. 7EC is active on 7 and 14 Mc. c.w. chasing the elusive DX. 7PF can be heard on 3.5 Mc. discussing satellites. 7BQ is also due to appear on this band shortly, whilst 7LZ is all set up for 1.8 Mc.

Zone activity on the v.h.f. bands is at present practically nil. 7EB is now recovering after a successful operation; glad to see you about again, Ed. 73, 7LZ.

HAMADS

Minimum 5/-, for thirty words.
Extra words, 2d. each.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 36, East Melbourne, C.2, Vic., by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

EXCHANGE: BC342N Receiver in mint condition, modified front end, noise limiter, Q5er output, for V.h.f. Receiver—Hallicrafter S72 or S36 or similar. Cash adjustment if necessary. VK3ZGF. Phone 25-3968 (Vic.).

FOR SALE: AR7 Receiver, complete, £25. Hallicrafters SX39A same price, also AT5 and other transmitters and receivers, p.a. equipment, c.r.o., and power supplies. No reasonable offer refused. Must sell. VK2EI, L. West, 38 Fullers Ave., Chatswood, N.S.W.

FOR SALE: Cavity Tuned Oscillators, from No. 10 Sets, 3,500 Mc., £2/10/0. Transmitters and Receivers, No. 10 Set, 3,500 Mc., £5 each. 12 volt Vib. Trans., C.r.o. h.t. Trans., 600-60,000 ohm Line Trans., all 5/- ea. C.r.o. Indicator Unit with p/supply, £5. A.W.A. batt. operated Mod. Osc., A8.15. £5/10/0. 100w. Public Address Amp., p/supply, no tubes, £10. 5 metre 4 el. Beams, new, £4. Line Amplifiers, has 6v. vib. p/supply, £1/15/0 each. 700v. aside, 300 mA. Power Trans., £4; others at lower prices. 1,500v. aside, possibly 1,000 mA., oil filled, P. Trans., new, £10. Other bits and pieces. Boxes of assorted components, 30/- each (you will need a car). All gear to be disposed of. Shifting QTH and cannot take—make an offer. Will exchange any of above for 2 metre gear or test equipment. Eddystone 750 Rx, excellent order, £85. Heath Kit OM1 Oscilloscope, new, £33. Able to arrange finance if required. T. E. Straughair, VK3ABV, 185 Stephen St., Yarraville, W.13. Note, I am not on telephone.

FOR SALE: Gear ex late VK4CU. Command Tx's, modified and good performers, 3-4 and 7-9 Mc., with plug-in Heising choke modulator and 380v. pack, D104 mike, £16. H.t. pack, 550v., 250 mA., pair 5Z3s, 6.3v. fils., £5. H.t. pack, 385v. 150 mA., 5Z3, 6.3v. fils., £3. 3-6 Mc. Command Rx, modified 7 Mc., 455 i.f's., £4. Palec Valve Tester, Model VCT, Offers? Chassis Punches, ¾" 15/-, 1⅜" 25/-. BC348, original wiring, inbuilt h.t., £28. A. Marshall, Clifton, Qld. VK4AF.

FOR SALE: Transmitter-Receiver R.A.A.F. type ATR2B with a.c. and d.c. power supplies, in perfect working order. This is a going mobile, portable, or base station on 3.5 and 7 Mc. with xtal and v.f.o., £25. Communications Receiver AR7. in excellent condition with a.c. and d.c. power supply, range 140 Kc. to 32 Mc.; this is probably the best AR7 in Victoria, £35. Commercial Public Address Amplifier, with 6L6s in p.p., £7/10/0. Test Equipment: Valve and Circuit Tester, Palec VC2 with attachments for t.v. and miniature tubes, £12. 6" Oscilloscope APW9922, in first class condition (with pwr. supply), £12. Modulated Oscillator, Philips TA101A, 100 Kc. to 25 Mc.; this is a piece of laboratory standard equipment, £17. Modulated Oscillator Palec M101, range 150 Kc. to 30 Mc., £15. Wavemeter, Type W1117, range 125 Kc. to 20 Mc.; this item will meet your most stringent frequency measuring requirements in the shack, includes two sets of spare calibrated valves, £15. Vacuum Tube Voltmeter, Palec Model VTM, with r.f. probe, £12/10/0. Mobile Transmitter (less pwr. supply), A.W.A. Type J3244, freq. approx. 2 Mc., final 807, 8" x 10" x 8"; this item is worth seeing if you intend going mobile, £7/10/0. Range of modern series tubes, most new and unused, includes two photo electric cells, a parcel of 25 for £4. All equipment is in guaranteed working condition and will form the basis of an excellent test bench for any Ham. I am going overseas late in August and early buyers will not regret an inspection. John Morris, VK3AES, (WF 2090), 302 Riversdale Road, Camberwell, Vic.

FOR SALE: Type 3 Mk. II.. built-in modulator (plate and screen), complete with spares, assembled in carrying case 21" x 16" x 7". Phone Robb, 29-2384 (Vic.).

SELL: Collins 75A2 Rx, mint condition, £175. "Minifon" Recorder, subminiature, runs 2 hrs., complete, mic., headset, etc., a.c. or d.c., fits easily in pocket, as new, £50. C.r.o. "Nagard," 5" dual beam, d.c. to 20 Mc., and matching supply, £75. Taylor Valve Tester and Multimeter, Model 47A, £25. Class C Wave Meter, £10. Command Tx, £5. Command Tx. converted 80 mx v.f.o., £5. B. & W. Coil Turret and Cond., 80-10m., £3. Inverter, 12v. d.c. input, 240v. a.c. o/p., commercially made for elect. shaver, or similar, £2½. Signal Generator, 100-155 Mc., £3½. Vibrator, 12v. supply, £1½. Genemotor and filter, 12v. input, 300v. o/p., £3½. Auto Keyer complete, power supply and key, £4. R. Hall, 17 College Gr., Black Rock, Vic. VK3NZ. Phone 99-4363.

WANTED: B.f.o. Coil 85 Kc. from BC 453. J. Tutton, VK3ZC, Phone 81-6131, or 60-1031 (day).

WANTED: 122 or ATR2B Transceiver or similar. Must be good condition and complete. Preferably Sydney area. Also require meter and vibrator for 122. VK2IT, Peter Long, C/o. Sgt's. Mess, R.A.A.F. Richmond, N.S.W. Phone Windsor 2271, Ext. 356 (working hours), Ext. 217 (after).

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Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (xtal not supplied), 1 to 15 Mc. 100, 117 or 230v. a.c. input, 50/60 c.p.s. Size: 7½ x 10¾ x 4½ in. Weight: 6 lb.

Price: LSG11— £16/17/6 inc. tax
LSG10— £13/17/6 inc. tax

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Small bakelite speaker 4-pin Plug and Socket .... **1/9 pair**

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2-pin Mike Plugs and Sockets, **4/6 pair**

Phone Plug (with 2 ft. Cord) and Jack. Brand new .... **2/6 set**

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Type R89/ARN-5A. 300 Mc. Valves: seven 6AJ5s, two 12SN7s, one 12SR7, one 28D7, six relays, and three crystals of 6522.9 Kc. As new. **£5 each.**

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(Ceramic)

Trimmers, Ducon, 4-30 pF., **3/6 ea.**
Philips air trimmers, 3-30 pF., **3/- ea.**
Compression trimmers, c.t. 3-55, **1/- ea.**
50 and 55 pF. screwdriver adjustment, chassis mounting .... **12/6 each**

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V.T.V.M. .... **£19/17/6** inc. tax
H.V. Probe .... **£3/5/0** inc tax
R.F. Probe .... **£2/10/0** inc. tax

ECKO NO. 88 TRANSCEIVER

Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves, 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.
To Clear, £6/10/0 each

NEW VALVES

1A3	2/6	10 a	£1	6SJ7	12/6		
1A5	5/-	5 a	£1	6SK7GT	12/6		
1A7GT	7/6	3 a	£1	6SL7GT	12/6		
1C7	3/-	7 a	£1	6SQ7	12/6		
1D5GT	5/-	5 a	£1	6SS7	7/6	3 a	£1
1D8	7/6	3 a	£1	6T7	7/6	3 a	£1
1F5	7/6	3 a	£1	6V4	11/4		
1H4	5/-	5 a	£1	6V6GT	16/-		
1H5	5/-	5 a	£1	6X5	15/-		
1H6	5/-	5 a	£1	6Y6	5/-	5 a	£1
1K4	5/-	5 a	£1	6Z7	7/6	3 a	£1
1K5	5/-	5 a	£1	7A4	5/-	5 a	£1
1K7	5/-	5 a	£1	7A8	2/-	11 a	£1
1L4	5/-	5 a	£1	7C5	5/-	5 a	£1
1L5	10/-			7C7	2/-	12 a	£1
1M5G	5/-	5 a	£1	7E6	3/6	7 a	£1
1N5	5/-	5 a	£1	7W7	2/6	10 a	£1
1P5	2/-	10 a	£1	12A6	4/-	6 a	£1
1Q5	5/-	5 a	£1	12AT7	7/6		
1S4	7/6	3 a	£1	12SA7GT	10/-		
1S5	10/-			12AH7	5/-	5 a	£1
1T4	5/-			12C8	5/-		
2A5	7/6			12H6	3/6		
2A6	7/6			12J5	5/-	5 a	£1
2D21	15/-			12K8	5/-	5 a	£1
2X2	5/-	5 a	£1	12SK7	5/-	5 a	£1
3A4	10/-			12SQ7	5/-		
3AP1	25/-			12SR7	5/-	5 a	£1
3BP1	35/-			14A7	3/6	7 a	£1
3Q5	5/-	5 a	£1	117Z6	5/-	5 a	£1
3Q4	10/-			1625	5/-	5 a	£1
5V4G	15/-			1626	5/-	5 a	£1
5Y3GT	13/9			1629	5/-	5 a	£1
5Z3	17/6			30	1/3		
6A3	7/6	3 a	£1	35T	30/-		
6A6	7/6			45	5/-		
6AG7	12/6			717A	7/6	3 a	£1
6AJ5	7/6	3 a	£1	726A	10/-		
6AK5	20/-			80	10/-		
6AM5	(EL91)	10/-		805	45/-		
6AM6	(EF91)	10/-		807	7/6	3 a	£1
6B4	10/-			808	10/-		
6B7	10/-			809	20/-		
6BE6	12/6			815	15/-		
6C4	5/-	5 a	£1	830B	15/-		
6C5	5/-	5 a	£1	832A	19/6		
6C6	5/-	5 a	£1	866	32/6		
6C8	10/-			954	5/-	5 a	£1
6D6	5/-	5 a	£1	955	5/-	5 a	£1
6E5	5/-	5 a	£1	956	5/-	5 a	£1
6F5	7/6			958A	2/6	10 a	£1
6F6	12/6			2051	5/-		
6F7	10/-			9003	7/6	3 a	£1
6F8	5/-			AV11	2/11		
6G6	7/6	3 a	£1	DL75	2/6	10 a	£1
6H6	Glass	2/6		EA50	2/-	10 a	£1
6J6	10/-			EC91/6AQ4	10/-		
6J8	20/-			ECH33	20/-		
6K7	5/-	5 a	£1	ECH35	20/-		
6K8G	20/-			EF36	5/-	5 a	£1
6K8GT	12/6			EF39	5/-	5 a	£1
6L7	5/-	5 a	£1	EF70	5/-	5 a	£1
6R7	7/6	3 a	£1	EF72	5/-	5 a	£1
6SA7	7/6			EF73	5/-	5 a	£1
6SC7	7/6			EL41	10/-		
6SF5	7/6	3 a	£1	EY91	5/-		
6SF7	7/6	3 a	£1	KT61	(6V6)	15/-	
6SH7	4/-	5 a	£1	OB2	30/-		

1N21 SILICON DIODES

U.h.f. mixer, design freq. 3,060 Mc.
7/6 each, or **3 for £1.**

BC433-G COMPASS RECEIVERS

Freq. range 200 Kc. to 1750 Kc., 14 valves—6.3 volt series, 6K7, 6J5, etc. I.F. freq. 142.5 Kc. Clean condition,
Priced only **£10/0/0**
Flexible Cable **10/-.**

JAPANESE METERS

0-1 mA. square, 1½" hole, MR-2P **35/-**

CRYSTAL MICROPHONES

Price only 57/6
Stand to suit 15/- extra.

Model BM3 (illustrated): Response 100-8,000 c's., fitted with 6 ft. cable and phone plug with on-off switch. Can be used on stand for hand use.

BM3 Insert .... **10/- each**

Model LM4, small lapel clip, sensitvity —57 db., response 100-6,000 c.p.s. .. **17/6**

Model M-30, lapel type (small) **20/-**

Model M34, in bakelite case, suit Tape Recorder **22/6**

Model M33, pencil type with stand, **50/-**

AMERICAN POTENTIOMETERS

American Bradley, 2" long, ¼" shaft, 1" diam. Available in following sizes: 20,000, 25,000, 30,000, 50,000, 100,000, 250,000 ohms, 1 and 2 megohms.
Price 2/6 each

50 ohm 25w. wire wound (D129) **5/-**

OA79 and OA81 DIODES

Well known make. Brand New.
To Clear—2/6 each

FUSE HOLDERS

Bakelite, round type, takes standard auto fuse **3/6**
Slide lock, single **3/6**
Slide lock, twin **4/6**

FILAMENT TRANSFORMER

240v. primary, secondary: 5v. at 2 amp. and 10v. at 3 amp. **35/-.**

TRANSISTOR POWER SUPPLIES

A. & R. Types PS21 and PS25.
Prices on Application.

VALVES—NEW (Continued)

QQV06/40	97/6			VR136	2/-	12 a	£1
RL18	7/6	3 a	£1	VR137	2/6		
UL41	7/6	3 a	£1	VR150	10/-		
VR53	5/-	5 a	£1	VT52	5/-		
VR101	5/-	5 a	£1	VT127	4/11	5 a	£1
VR102	5/-	5 a	£1	VT501	7/6	3 a	£1
VR103	5/-	5 a	£1	Y65	5/-		

HAM RADIO SUPPLIERS

5A MELVILLE STREET, HAWTHORN, VICTORIA Phone 86-6465

North Balwyn tram passes corner. Money Orders and Postal Notes payable North Hawthorn P.O. 5/- Packing Charge.

Design for communications

Designed for rugged service; the AKG D17 cardioid microphone provides:—

- Frequency Response: 50-15,000 c/s
- Front-to-Back Ratio: 18 db
- Impedance: 60 or 200 ohms

A lightweight communication set, the AKG Headphone/ Microphone set combines the well-known K50 headphones and a D58 noise cancelling microphone and provides:—

Headphones:	Frequency Response:	30-20,000 c/s
	Distortion	less than 1% at ImW
Microphone:	Frequency Response:	50-12,000 c/s
	Impedance:	200 ohms

For further particulars please contact Engineering Products Division.

AWA

AMALGAMATED WIRELESS (AUSTRALASIA) LIMITED

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